SHARP SERVICE MANUAL

S45B8AYX095E/

SPLIT TYPE
ROOM AIR CONDITIONERS

INDOOR UNIT

MODELS **AH-X075E/X095E**
AY-X075E/X095E

OUTDOOR UNIT

AU-X075E/X095E
AE-X075E/X095E

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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SHARP CORPORATION

SPECIFICATIONS

ITEMS			INDOOR UNIT	OUTDOOR UNIT	INDOOR UNIT	OUTDOOR UNIT
			AH-X075E	AU-X075E	AH-X095E	AU-X095E
Cooling capacity		kW	2.1(0.9 - 2.6)		2.6(0.9 - 2.9)	
Moisture removal		Liters/h	0.8		1.0	
★ **Electrical data**						
Phase		–	Single			
Rated frequency		Hz	50			
Rated voltage range		V	198 to 264			
Rated voltage		V	220 - 240			
Rated current	Cool	A	3.7 - 3.4		4.9 - 4.5	
Rated input	Cool	W	800		1070	
Power factor	Cool	%	99 - 99		99 - 99	
Compressor	Type		Hermetically sealed rotary type			
	Model		HV141X1-S12E3			
	Oil charge		370cc (SUNISO 4GSD)			
Refrigerant system	Evaporator		Bare tube type		Grooved tube type	
	Condenser		Corrugate Fin and Grooved tube type			
	Control		Capillary tube			
	Refrigerant volume		630g		670g	
Noise level	High	dB(A)	35	43	36	43
(at cooling)	Med.	dB(A)	31	–	32	–
	Low	dB(A)	28	–	28	–
Fan system						
Drive			Direct drive			
Air flow quantity	High	m^3/min.	6.7	24.3	7.0	24.3
(at cooling)	Med.	m^3/min.	4.9	–	5.3	–
	Low	m^3/min.	4.3	–	4.4	–
Fan			Cross flow fan	Propeller fan	Cross flow fan	Propeller fan
Connections						
Refrigerant coupling			Flare type			
Refrigerant tube size Gas, Liquid			3/8", 1/4"			
Refrigerant pipe sets No.			AZ-24H5E; 5m(16.4ft), AZ-24H7E; 7m(23ft)			
Drain piping mm(Inches)			O.D ø 18(45/64)			
Others						
Safety device			Compressor: Thermal protector		Compressor: Thermal protector	
			Fan motors: Thermal fuse			
			Fuse, Micro computer control			
Air filters			Polypropylene net (Washable)			
Net dimensions	Width	mm	750(29-17/32)	698(27-15/32)	750(29-17/32)	698(27-15/32)
	Height	mm	270(10-5/8)	530(20-7/8)	270(10-5/8)	530(20-7/8)
	Depth	mm	183(7-7/32)	250(9-27/32)	183(7-7/32)	250(9-27/32)
Net weight		kg	8	28	8	28

Note: The condition of star (★) marked item are 'IEC 378'.

ITEMS			INDOOR UNIT	OUTDOOR UNIT	INDOOR UNIT	OUTDOOR UNIT
			AY-X075E	AE-X075E	AY-X095E	AE-X095E
Cooling capacity		kW	2.1(0.9 - 2.6)		2.6(0.9 - 2.9)	
Heatpump Heating capacity		kW	3.2(0.9 - 3.6)		3.4(0.9 - 4.0)	
Moisture removal		Liters/h	0.8		1.0	
★ **Electrical data**						
Phase		–	Single			
Rated frequency		Hz	50			
Rated voltage range		V	198 to 264			
Rated voltage		V	220 - 240			
Rated current	Cool	A	3.7 - 3.4		4.9 - 4.5	
	Heat	A	5.0 - 4.5		5.5 - 5.0	
Rated input	Cool	W	800		1070	
	Heat	W	1080		1200	
Power factor	Cool	%	99 - 99		99 - 99	
	Heat	%	99 - 99		99 - 99	
Compressor	Type		Hermetically sealed rotary type			
	Model		HV141X1-S12E3			
	Oil charge		370cc (SUNISO 4GSD)			
Refrigerant system	Evaporator		Bare tube type		Grooved tube type	
	Condenser		Corrugate Fin and Grooved tube type			
	Control		Capillary tube			
	Refrigerant volume		630g		670g	
	De-Ice system		Micro computer controled reverse sysetm			
Noise level (at cooling)	High	dB(A)	35	43	36	43
	Med.	dB(A)	31	–	32	–
	Low	dB(A)	28	–	28	–
Fan system						
Drive			Direct drive			
Air flow quantity (at cooling)	High	m^3/min.	6.7	24.3	7.0	24.3
	Med.	m^3/min.	4.9	–	5.3	–
	Low	m^3/min.	4.3	–	4.4	–
Fan			Cross flow fan	Propeller fan	Cross flow fan	Propeller fan
Connections						
Refrigerant coupling			Flare type			
Refrigerant tube size Gas, Liquid			3/8", 1/4"			
Refrigerant pipe sets No.			AZ-24H5E; 5m(16.4ft), AZ-24H7E; 7m(23ft)			
Drain piping mm(Inches)			O.D ø 18(45/64)			
Others						
Safety device			Compressor: Thermal protector		Compressor: Thermal protector	
			Fan motors: Thermal fuse			
			Fuse, Micro computer control			
Air filters			Polypropylene net (Washable)			
Net dimensions	Width	mm	750(29-17/32)	698(27-15/32)	750(29-17/32)	698(27-15/32)
	Height	mm	270(10-5/8)	530(20-7/8)	270(10-5/8)	530(20-7/8)
	Depth	mm	183(7-7/32)	250(9-27/32)	183(7-7/32)	250(9-27/32)
Net weight		kg	8	28	8	28

Note: The condition of star (★) marked item are 'IEC 378'.

EXTERNAL DIMENSIONS

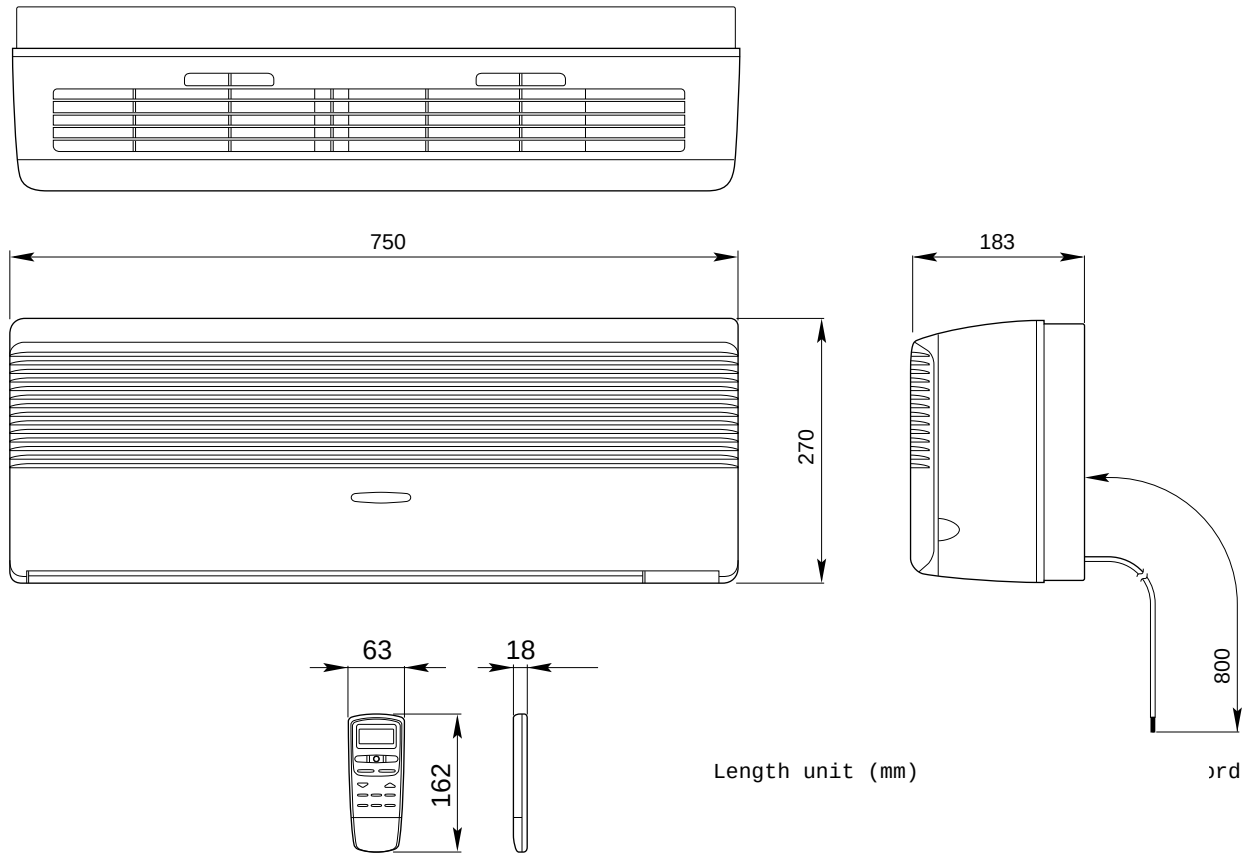
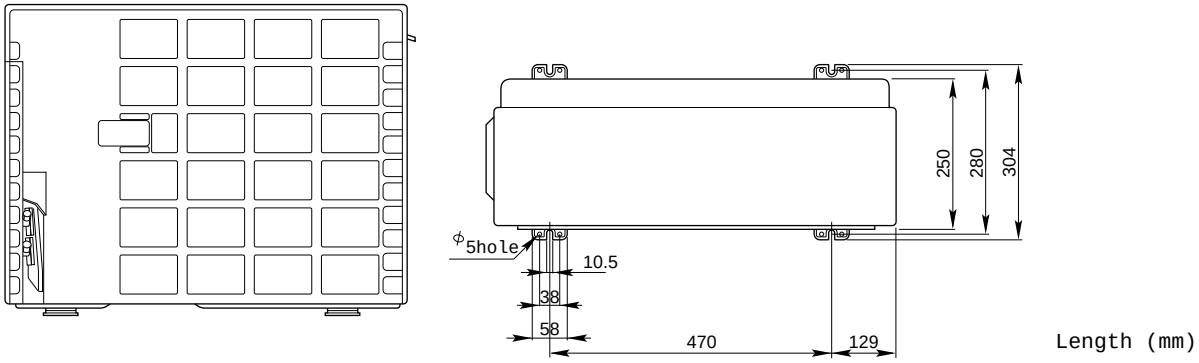


Figure E-1. INDOOR UNIT



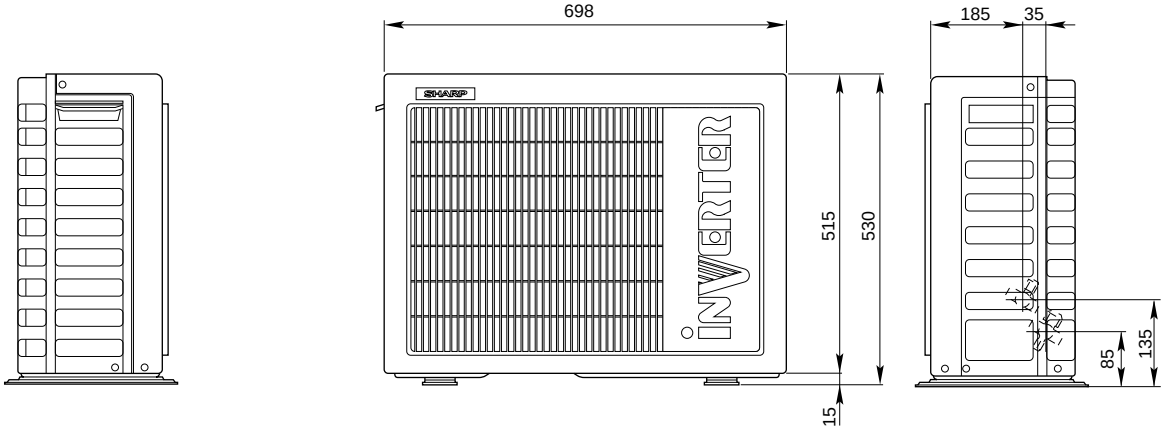


Figure E-2. OUTDOOR UNIT

WIRING DIAGRAMS

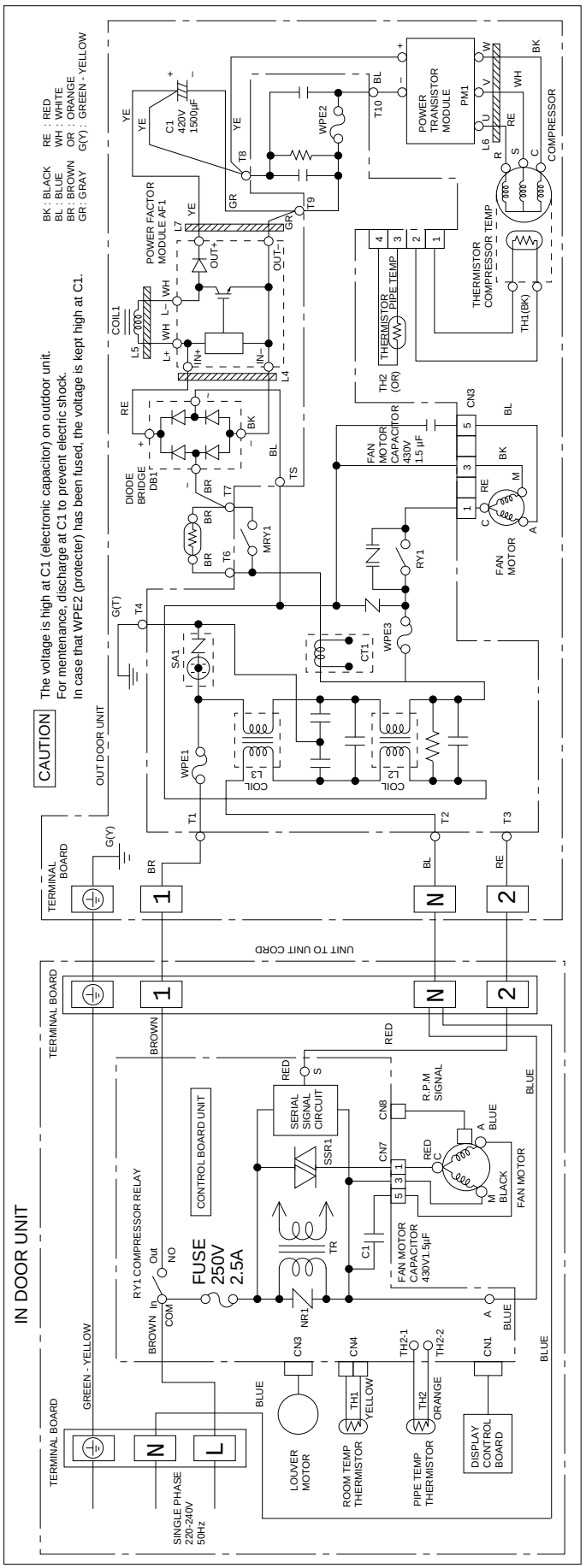


Figure W-1. Wiring Diagram for AH-X075E and AH-X095E

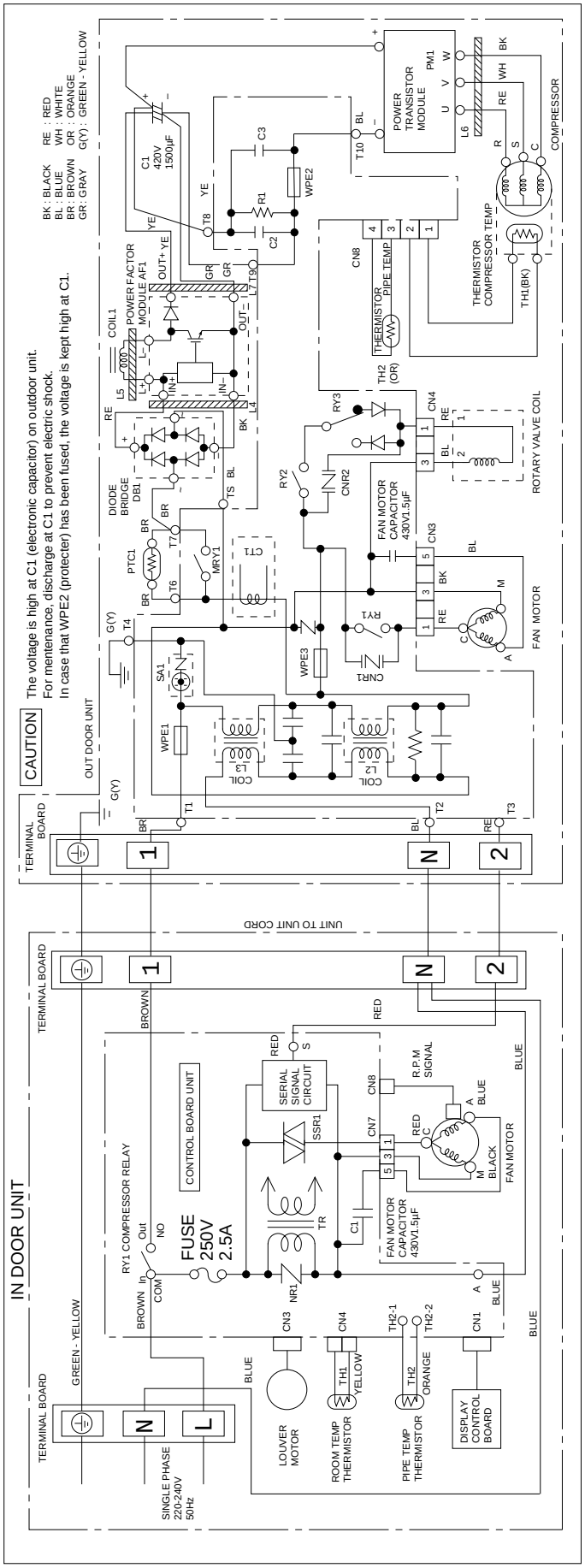


Figure W-2. Wiring Diagram for AY-X075E and AY-X095E

ELECTRICAL PARTS

For Model AH-X075E/X095E and AU-A075E/X095E

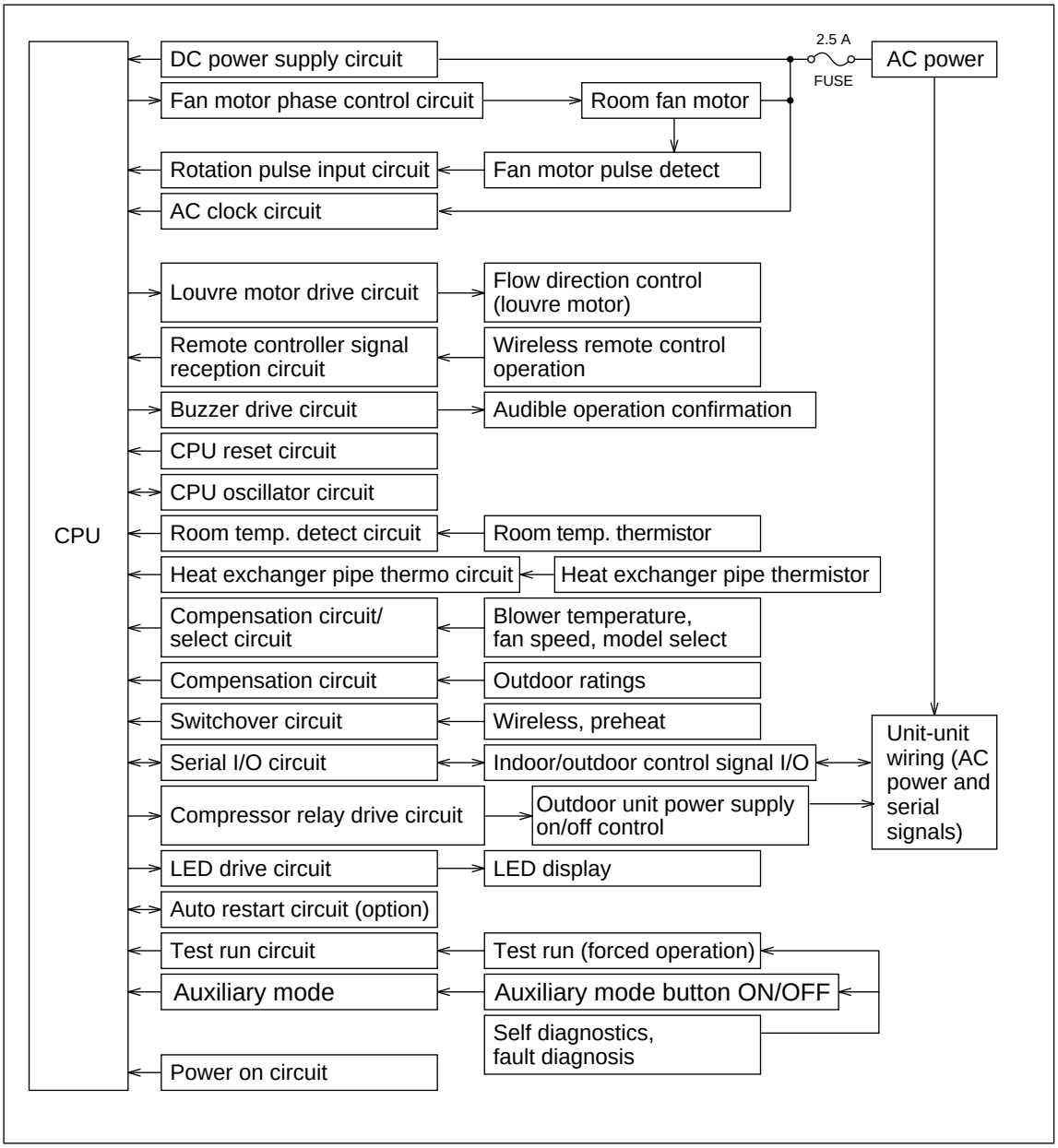
DESCRIPTION	MODEL	REMARKS	SITE
Indoor fan motor	ML-A486	220 - 240V, 50Hz	AH
Indoor fan motor capacitor	–	430V, 1.5µF	AH
Transformer	–	Primary; AC 230V, 50Hz Secondary; AC14.6V, 50Hz	AH
Fuse	–	250V, 2.5A	AH
Compressor	HV141X1S12E3	3-PHASE Induction motor	AU
Outdoor fan motor	ML-A485	220 - 240V, 50Hz	AU
Outdoor fan motor capacitor	–	430V, 1.5µF	AU
WPE1	–	QFS-AA047JBE0(13A, 250V)	AU
WPE2	–	QFS-AA040JBE0(10A, 250V)	AU
WPE3	–	QFS-AA046JBE0(3A, 250V)	AU

For Model AY-X075E/X095E and AE-A075E/X095E

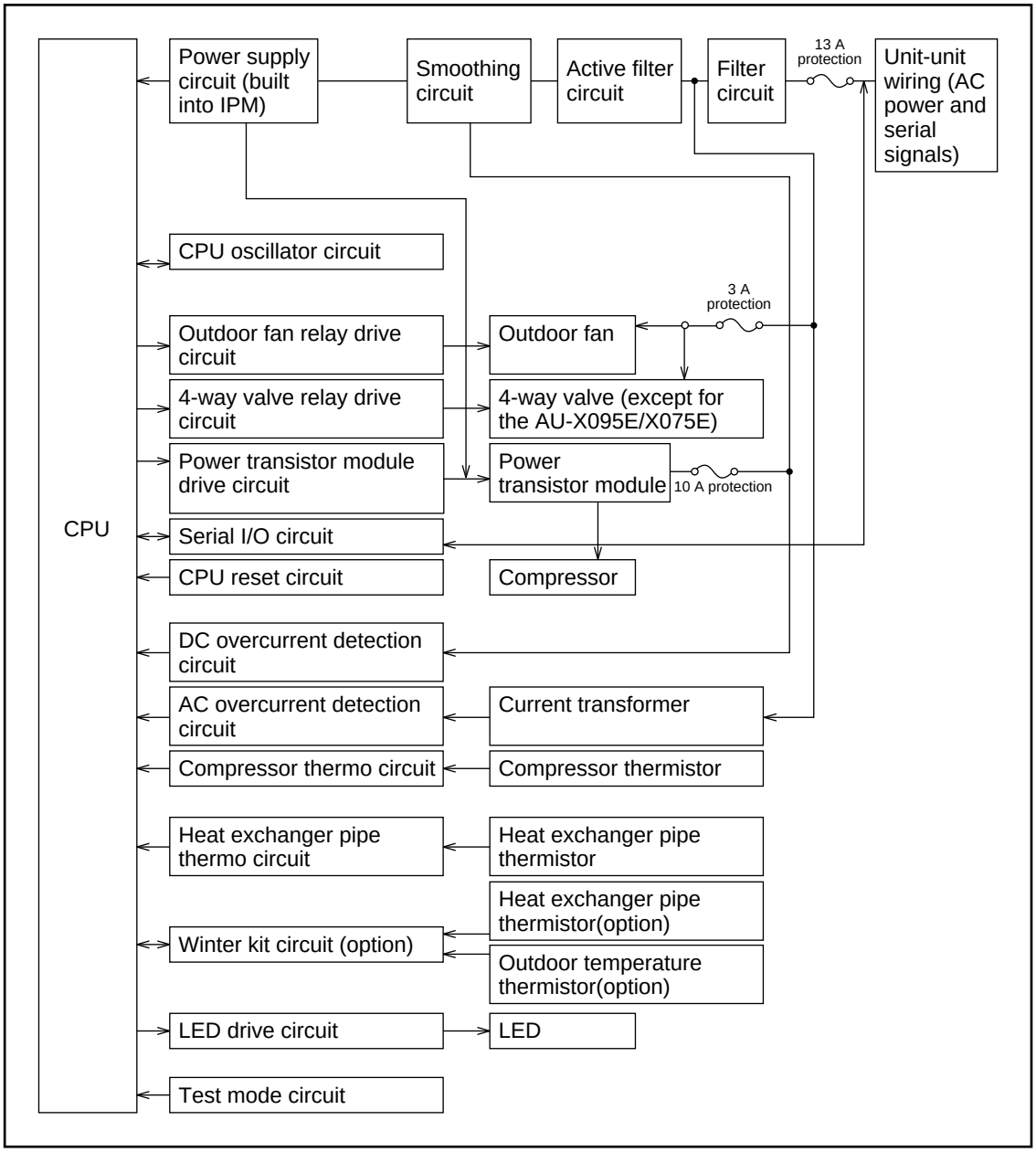
DESCRIPTION	MODEL	REMARKS	SITE
Indoor fan motor	ML-A486	220 - 240V, 50Hz	AY
Indoor fan motor capacitor	–	430V, 1.5µF	AY
Transformer	–	Primary; AC 230V, 50Hz Secondary; AC14.6V, 50Hz	AY
Fuse	–	250V, 2.5A	AY
Compressor	HV141X1S12E3	3-PHASE Induction motor	AE
Outdoor fan motor	ML-A485	220 - 240V, 50Hz	AE
Outdoor fan motor capacitor	–	430V, 1.5µF	AE
WPE1	–	QFS-AA047JBE0(13A, 250V)	AE
WPE2	–	QFS-AA040JBE0(10A, 250V)	AE
WPE3	–	QFS-AA046JBE0(3A, 250V)	AE

BLOCK DIAGRAMS

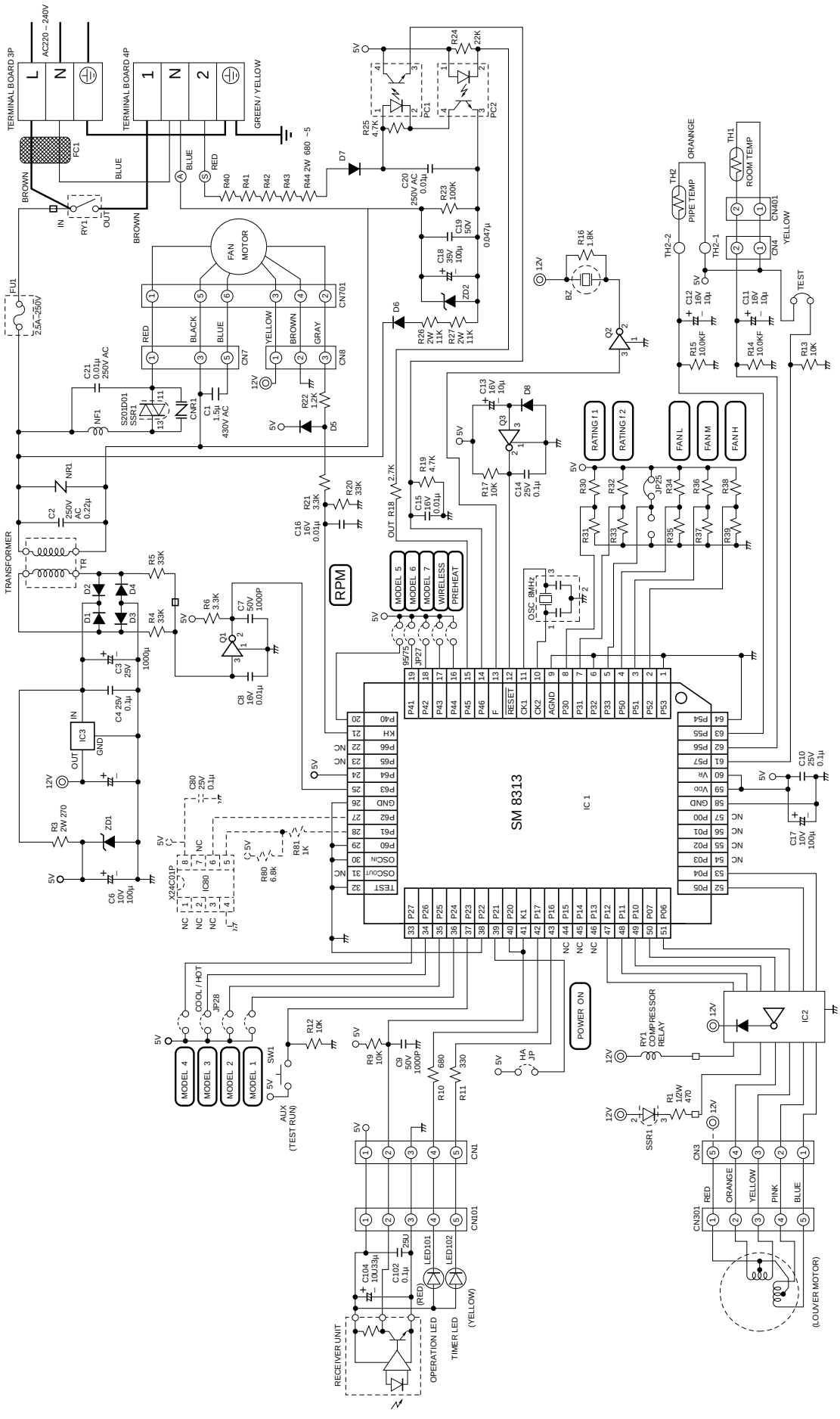
INDOOR UNIT for AH-X075E/X095E and AY-X075E/X095E



OUTDOOR UNIT for AU-X075E/X095E and AE-X075E/X095E



MICROCOMPUTER CONTROL SYSTEM



MODEL SELECT JUMPER WIRE

	JUMPER WIRE MODEL 3	JUMPER WIRE MODEL 6
	JP28	JP27
AY-X095E	NO	NO
AY-X075E	NO	YES
AH-X095E	YES	NO
AH-X075E	YES	YES

Figure L-1. Electronic Control Circuit Diagram for AH-X075E/X095E and AY-X075E/X095E

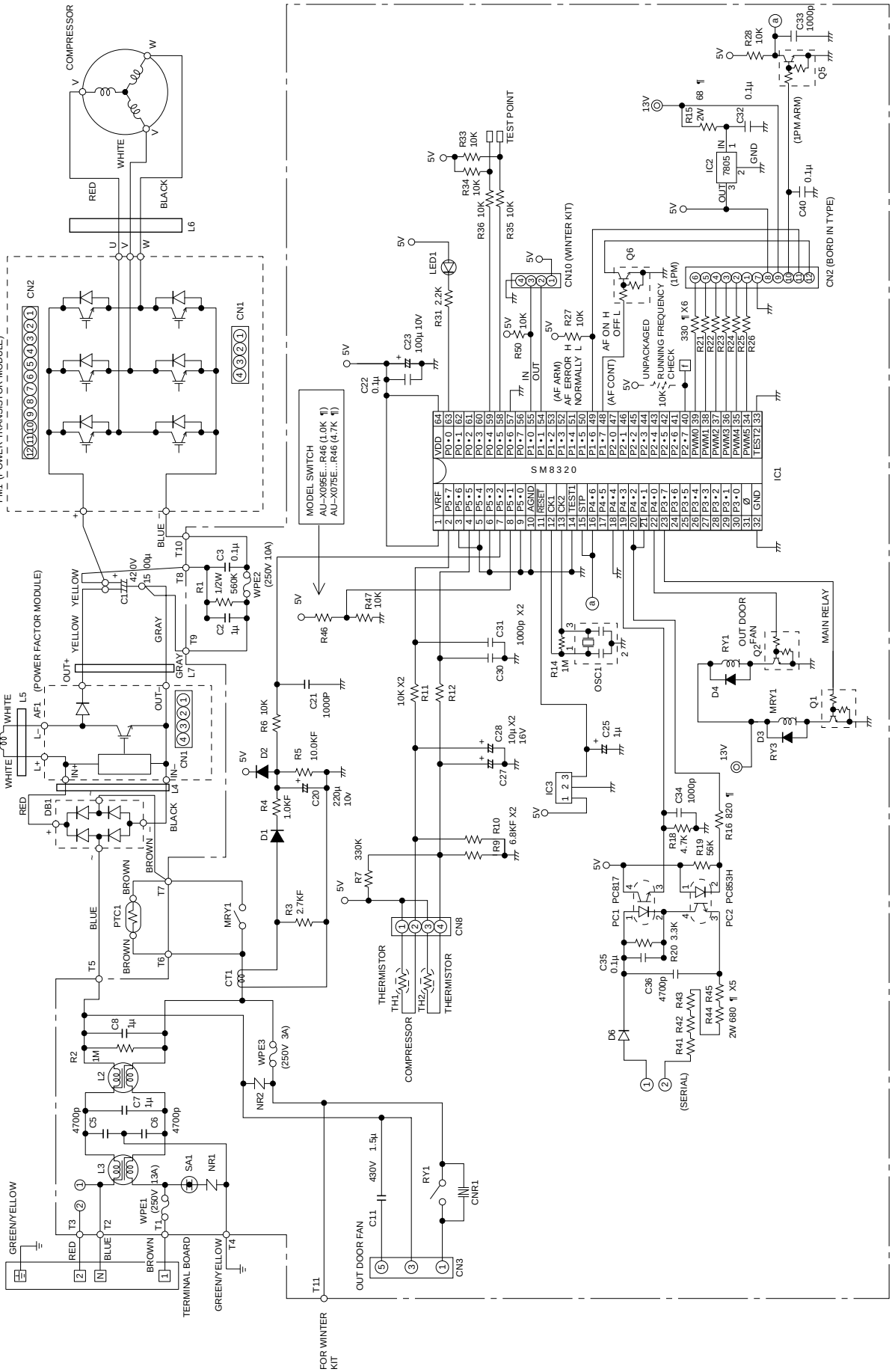


Figure L-2. Electronic Control Circuit Diagram for AU-X075E/X095E

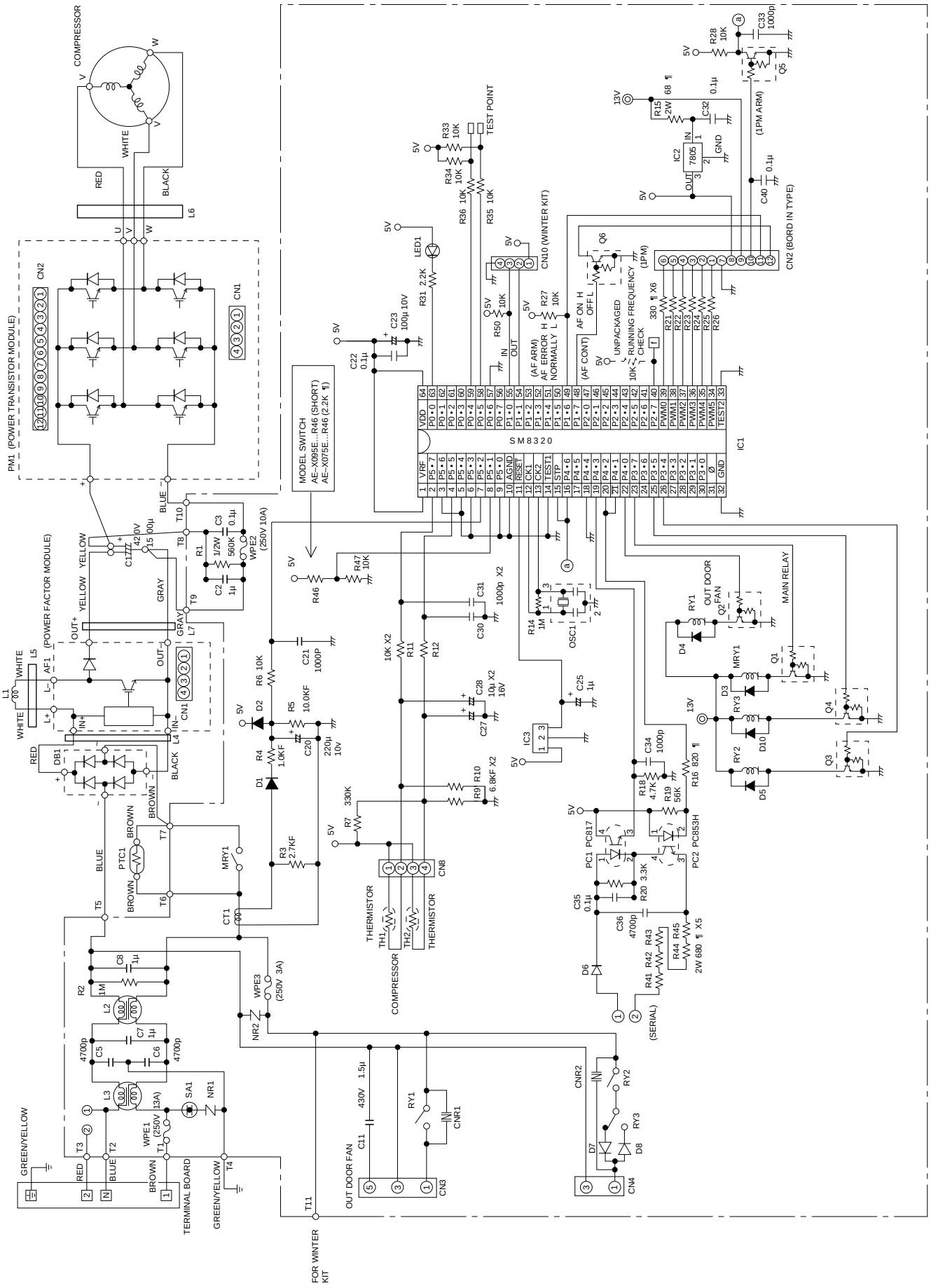


Figure L-3. Electronic Control Circuit Diagram for AE-X075E/X095E

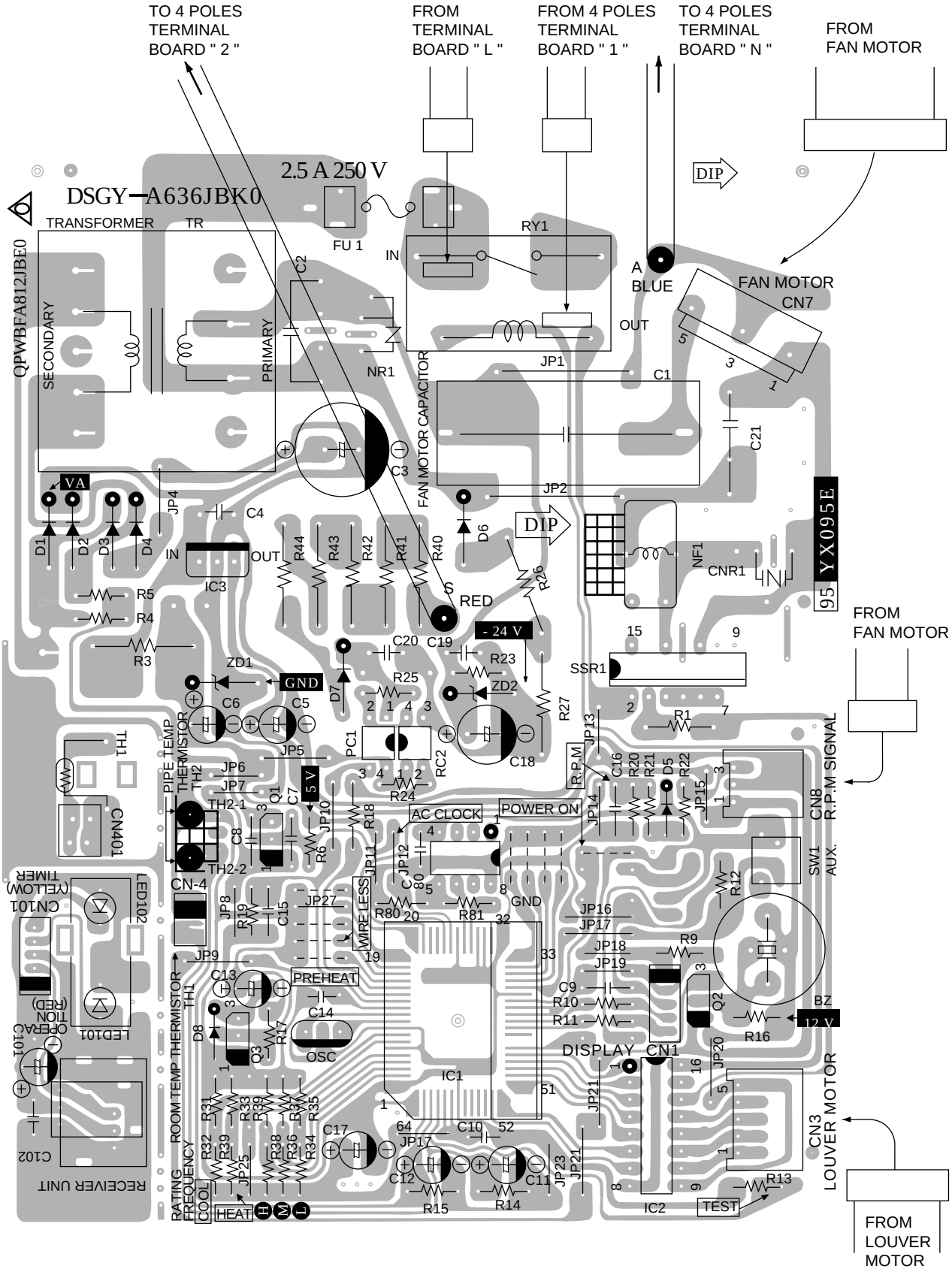


Figure L-4 Printed Wiring Board for AH-X075E

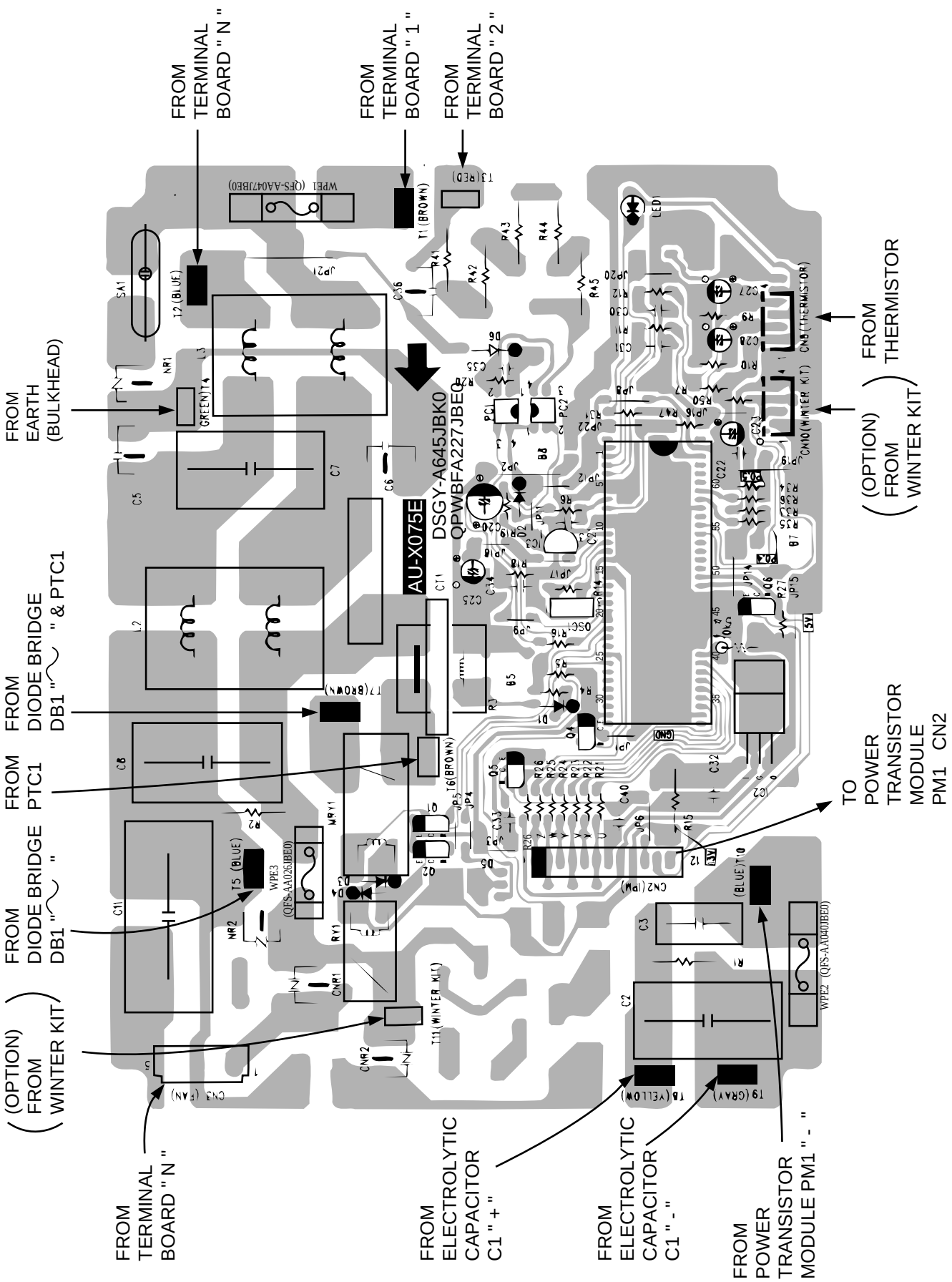

FROM TERMINAL BOARD " N "
FROM TERMINAL BOARD " 1 "
FROM TERMINAL BOARD " 2 "
FROM EARTH (BULKHEAD)
FROM DIODE BRIDGE DB1 " ~ " & PTC1
FROM DIODE BRIDGE DB1 " ~ "
FROM PTC1
(OPTION) FROM WINTER KIT
FROM THERMISTOR
(OPTION) FROM WINTER KIT
TO POWER TRANSISTOR MODULE PM1 CN2
FROM TERMINAL BOARD " N "
FROM ELECTROLYTIC CAPACITOR C1 " + "
FROM ELECTROLYTIC CAPACITOR C1 " - "
FROM POWER TRANSISTOR MODULE PM1 " - "
AU-X075E
DSGY-A645JBK0
QPWBFA227JBEQ

Figure L-5 Printed Wiring Board for AU-X075E

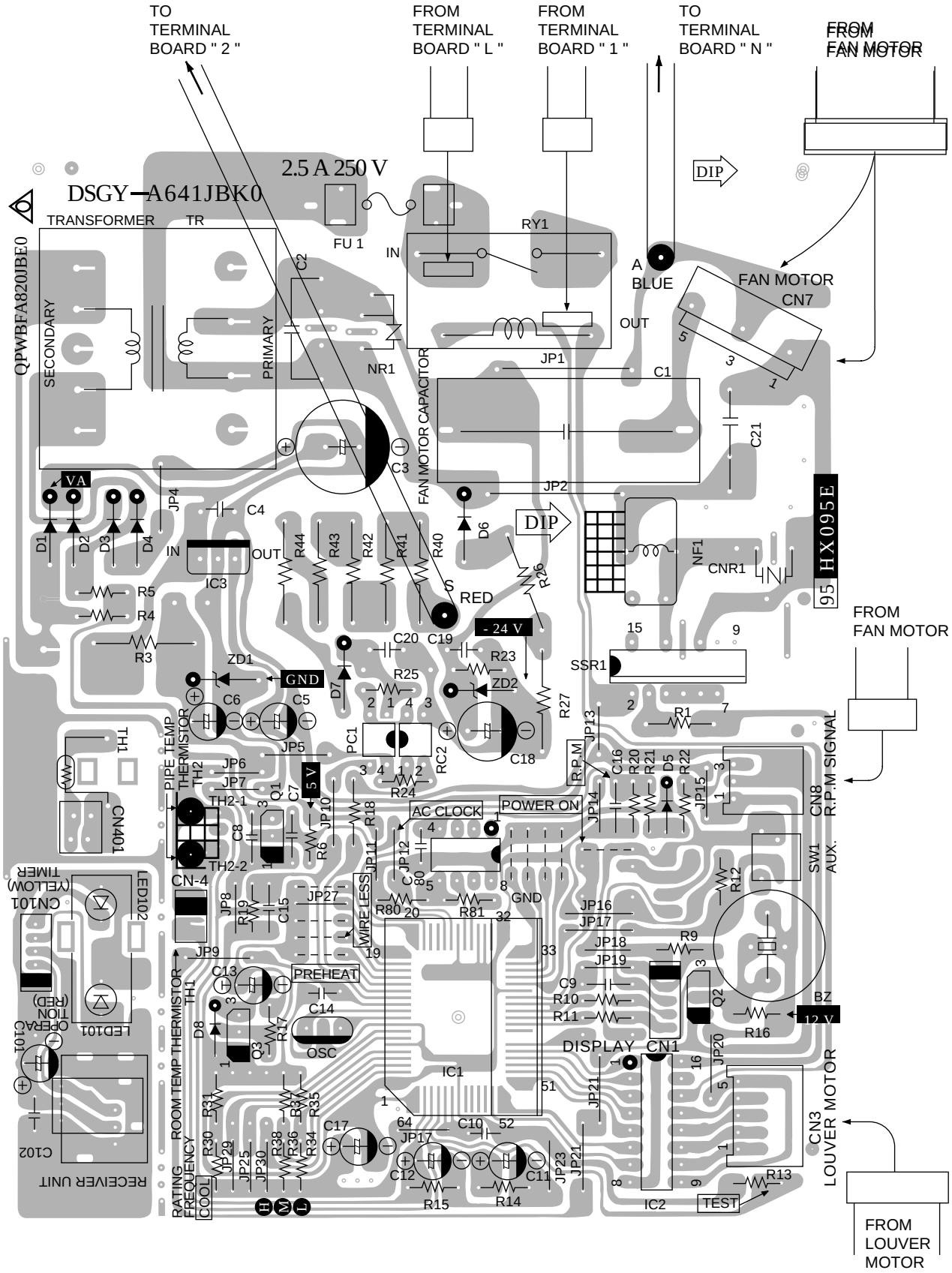


Figure L-6 Printed Wiring Board for AH-X095E

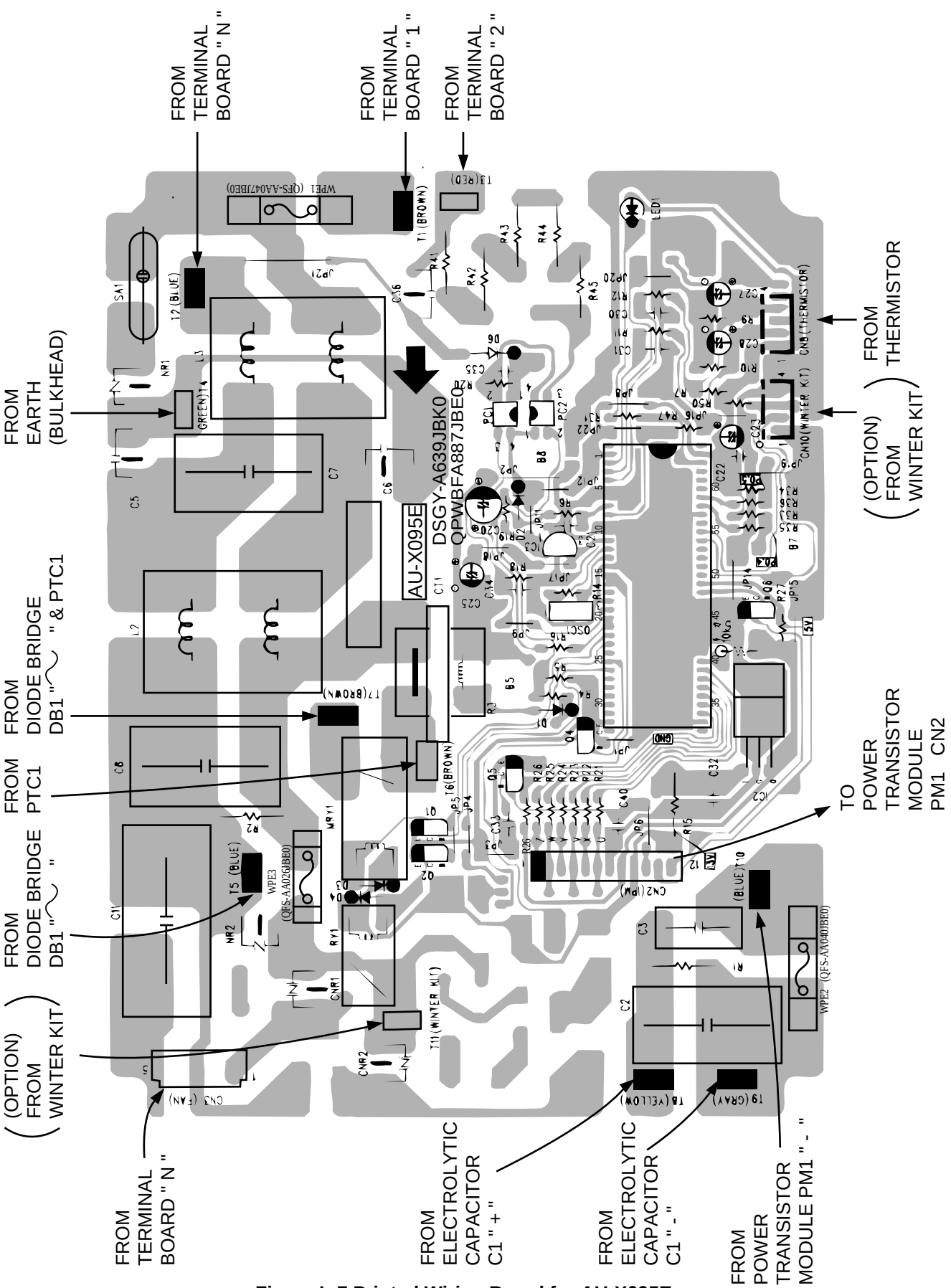

FROM TERMINAL BOARD " N "
FROM TERMINAL BOARD " 1 "
FROM TERMINAL BOARD " 2 "
FROM EARTH (BULKHEAD)
FROM DIODE BRIDGE DB1 " ~ " & PTC1
FROM DIODE BRIDGE DB1 " ~ "
FROM PTC1
(OPTION) FROM WINTER KIT
FROM THERMISTOR
(OPTION) FROM WINTER KIT
TO POWER TRANSISTOR MODULE PM1 CN2
FROM TERMINAL BOARD " N "
FROM ELECTROLYTIC CAPACITOR C1 " + "
FROM ELECTROLYTIC CAPACITOR C1 " - "
FROM POWER TRANSISTOR MODULE PM1 " - "
AU-X095E
DSGY-A639JBK0
QPWBFA887JBE0

Figure L-7 Printed Wiring Board for AU-X095E

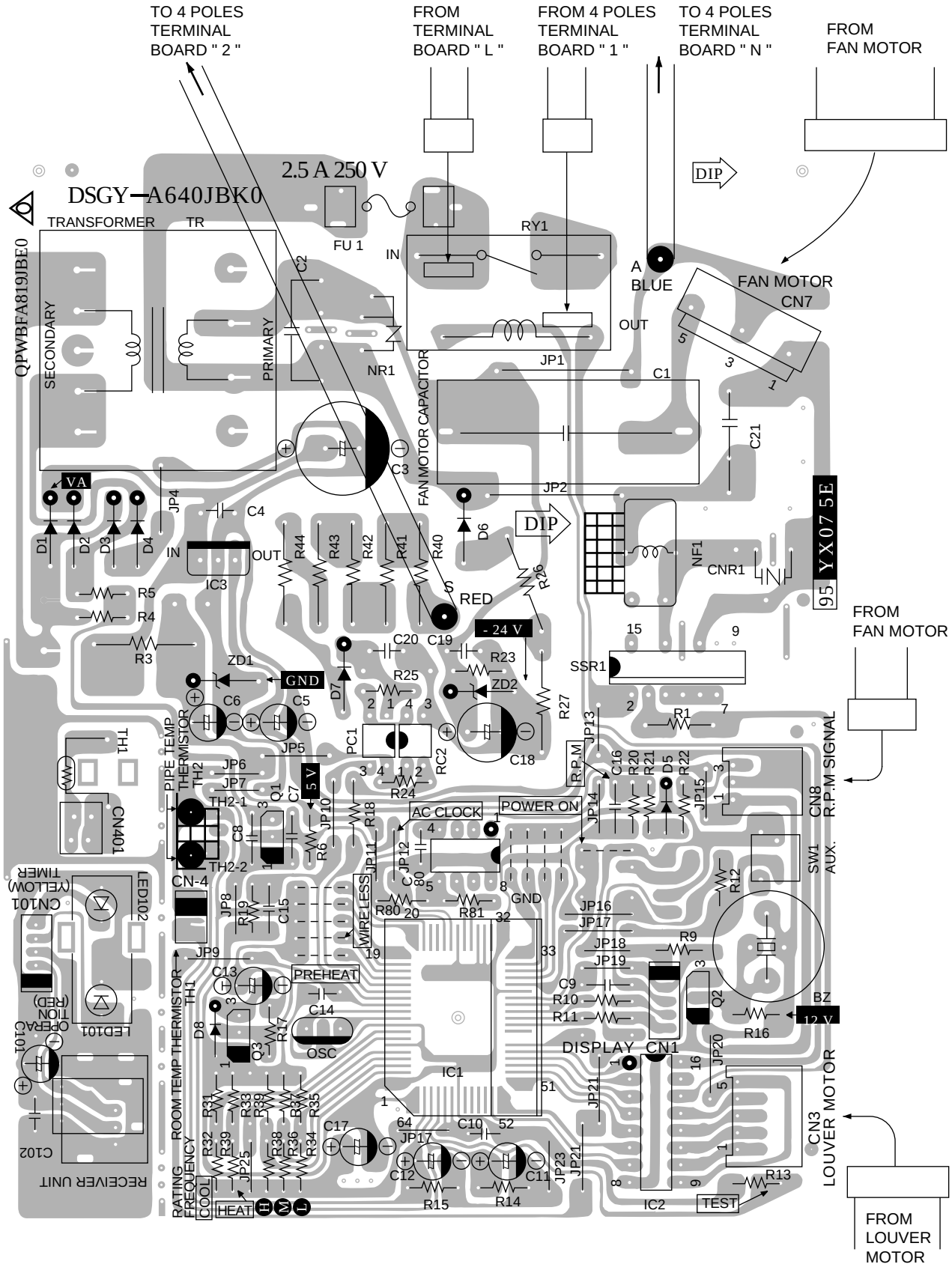


Figure L-8 Printed Wiring Board for AY-X075E

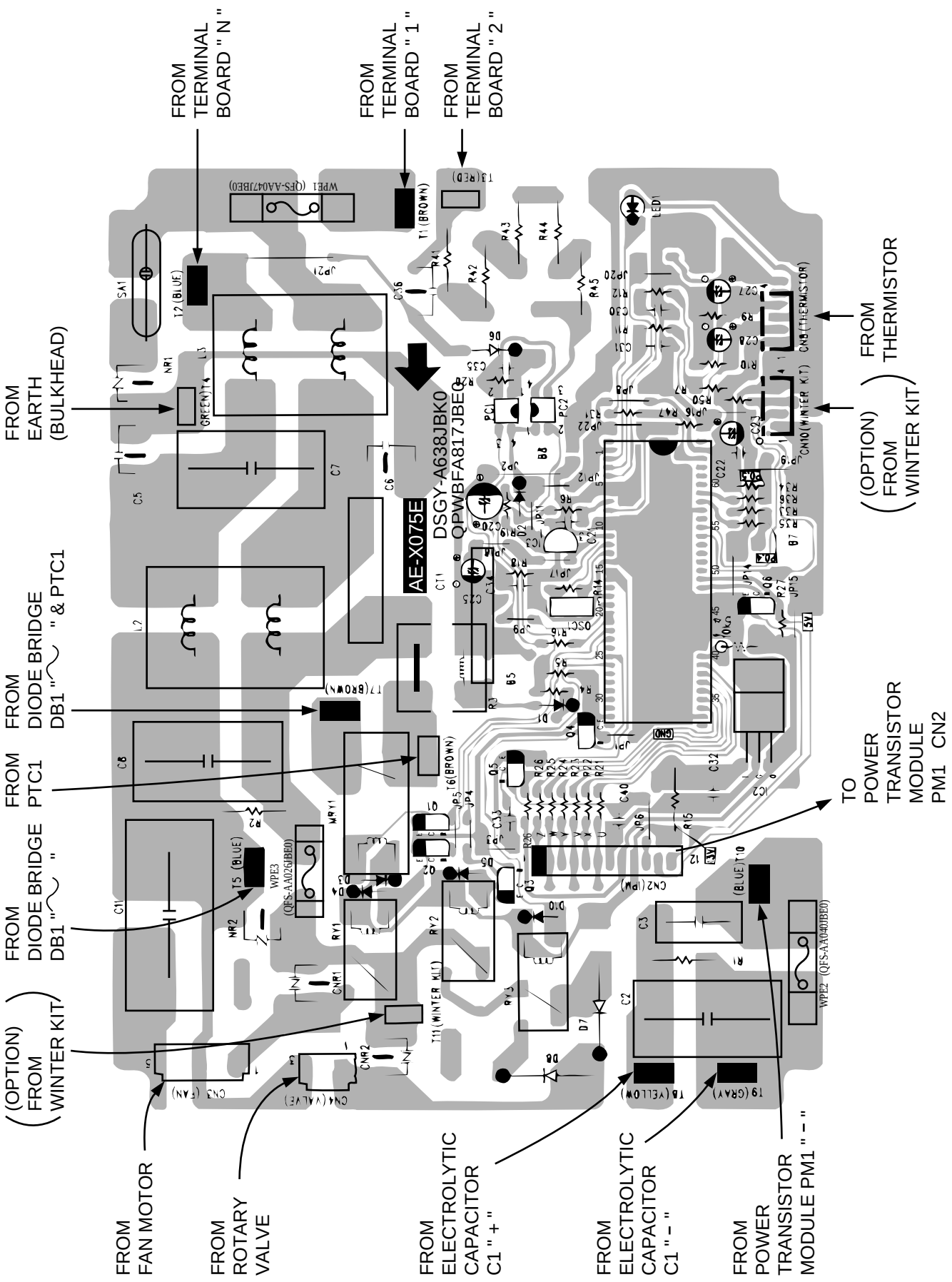

FROM TERMINAL BOARD " N "
FROM TERMINAL BOARD " 1 "
FROM TERMINAL BOARD " 2 "
FROM EARTH (BULKHEAD)
FROM DIODE BRIDGE DB1 " ~ " & PTC1
FROM PTC1
FROM DIODE BRIDGE DB1 " ~ "
(OPTION) FROM WINTER KIT
FROM THERMISTOR
(OPTION) FROM WINTER KIT
TO POWER TRANSISTOR MODULE PM1 CN2
FROM FAN MOTOR
FROM ROTARY VALVE
FROM ELECTROLYTIC CAPACITOR C1 " + "
FROM ELECTROLYTIC CAPACITOR C1 " – "
FROM POWER TRANSISTOR MODULE PM1 " – "
AE-X075E
DSGY-A638JBK0
QPWBFA817JBEQ

Figure L-9 Printed Wiring Board for AE-X075E

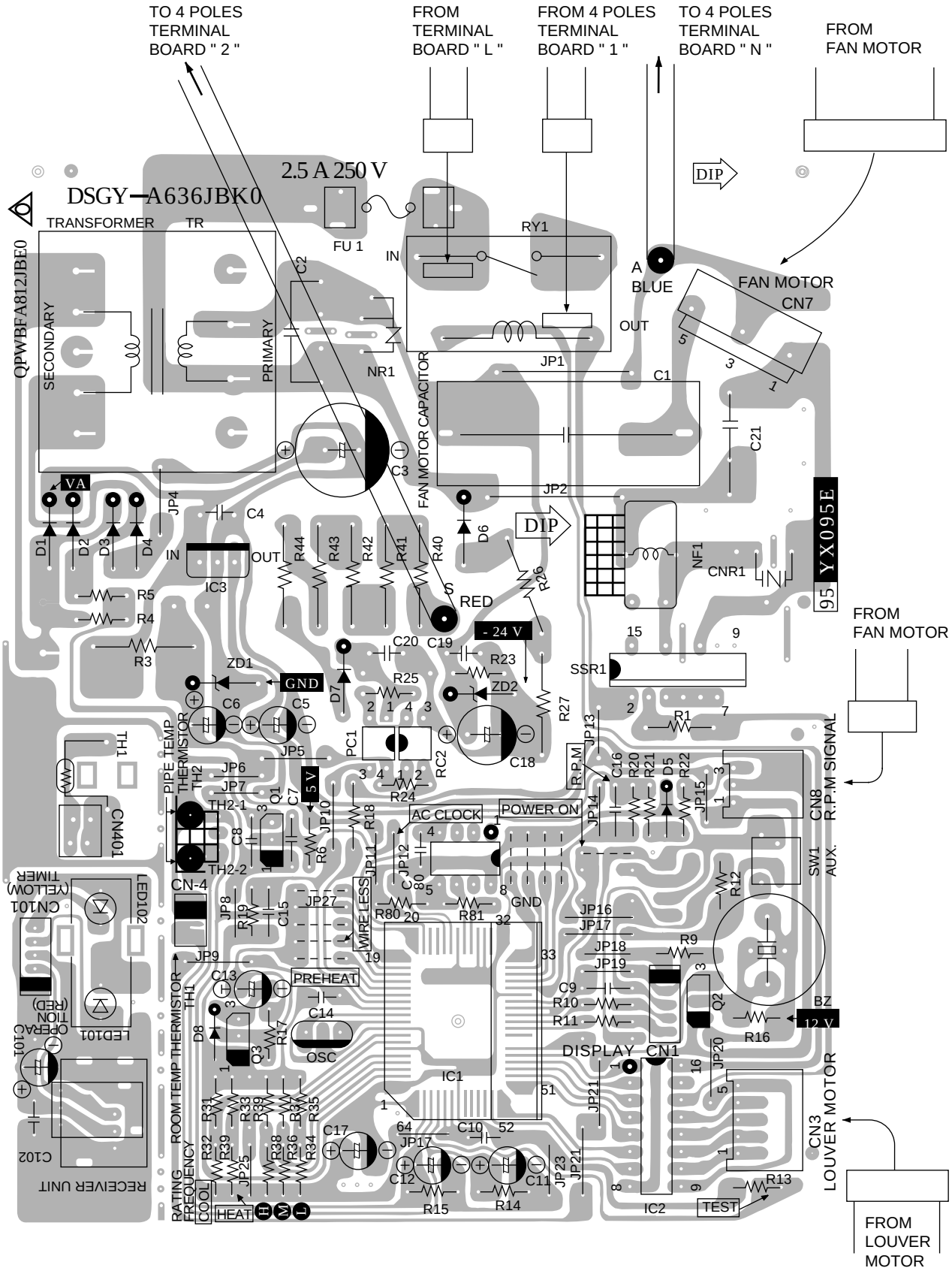


Figure L-10 Printed Wiring Board for AY-X075E

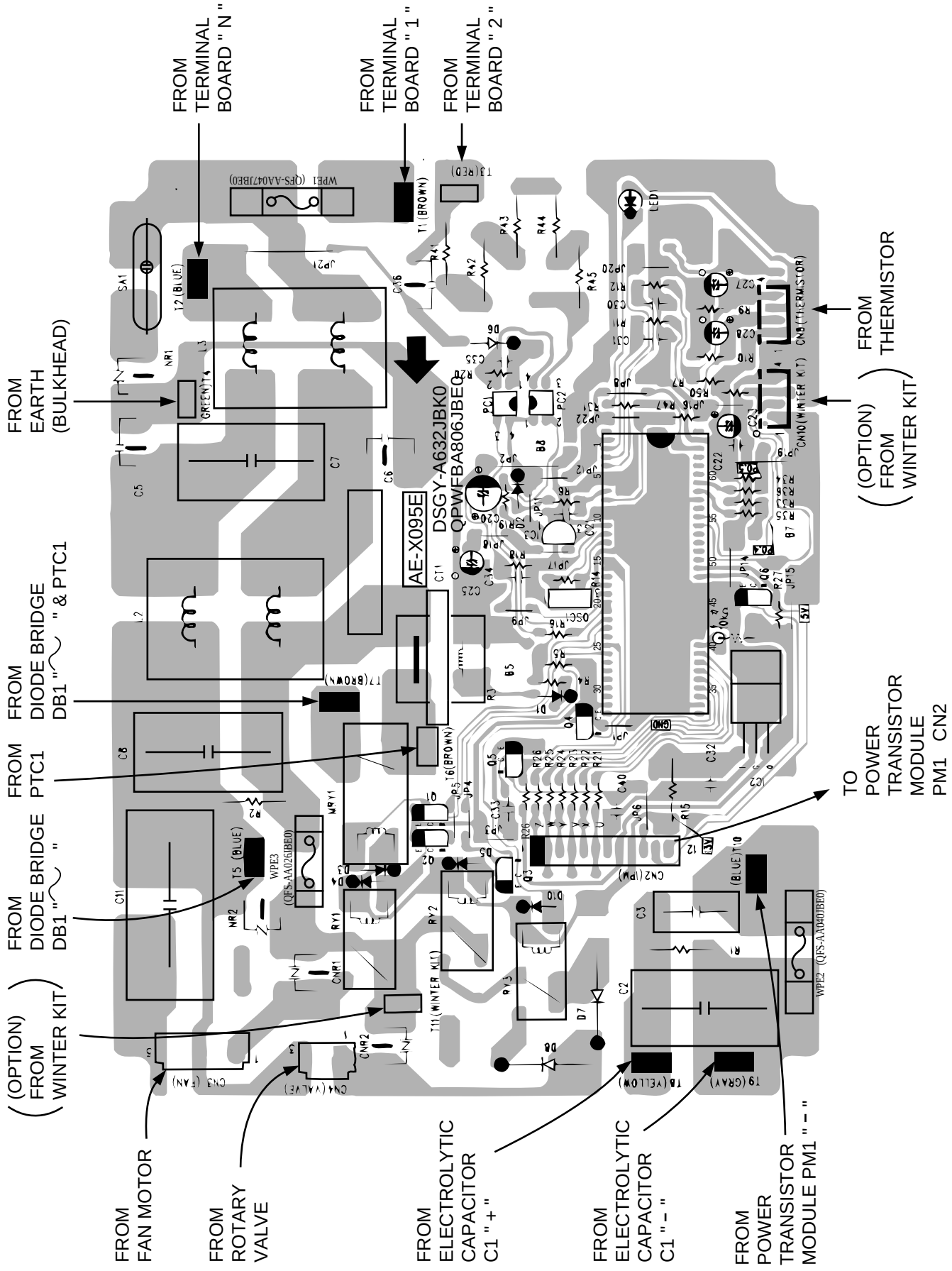

FROM TERMINAL BOARD " N "
FROM TERMINAL BOARD " 1 "
FROM TERMINAL BOARD " 2 "
FROM EARTH (BULKHEAD)
FROM DIODE BRIDGE DB1 " ~ " & PTC1
FROM DIODE BRIDGE DB1 " ~ "
FROM PTC1
(OPTION) FROM WINTER KIT
FROM THERMISTOR
(OPTION) FROM WINTER KIT
TO POWER TRANSISTOR MODULE PM1 CN2
FROM FAN MOTOR
FROM ROTARY VALVE
FROM ELECTROLYTIC CAPACITOR C1 " + "
FROM ELECTROLYTIC CAPACITOR C1 " - "
FROM POWER TRANSISTOR MODULE PM1 " - "
AE-X095E
DSGY-A632JBK0
QPWFBA806JBE0

Figure L-11 Printed Wiring Board for AE-X095E

FUNCTIONS

AH-X075E/X095E are not provided with the heating function.

1. INDOOR UNIT

1-1 Temperature Adjustment

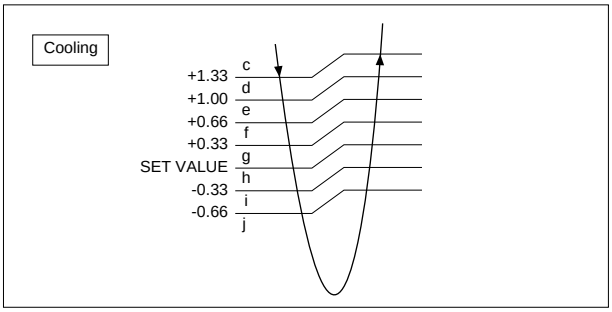
a. Normal control

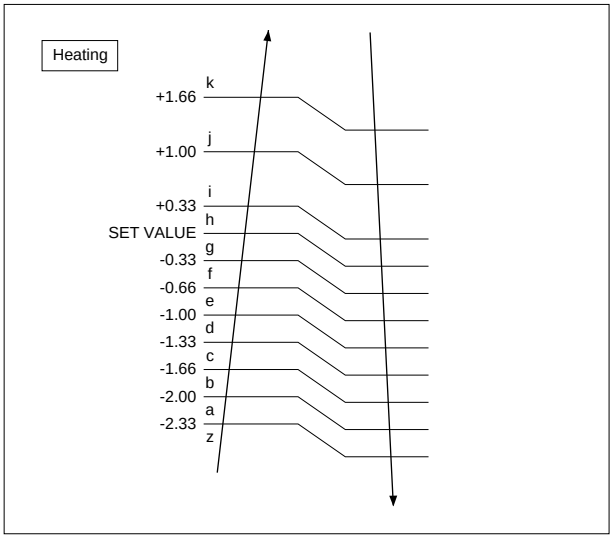
Proportional control (P control)

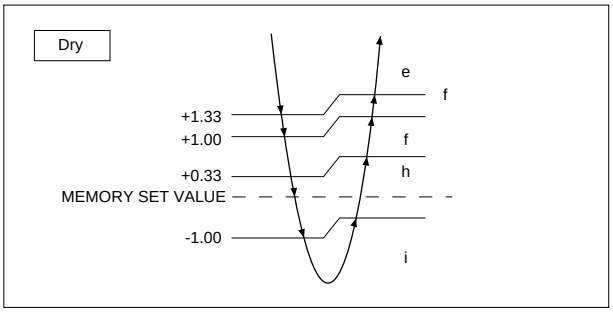
When the temperature zone changes, this control changes the frequency by one rank to move closer to the set value.

Integral control (I control)

When the temperature zone has set time in the same zone, this control changes the frequency by one rank to move closer to the set value. (Excluding the h zone.)







b. Initial control

The initial frequency is determined as shown in the tables below based on the difference between the temperature adjustment setting at the beginning of operation and the room temperature.

After operation begins, normal control is performed and therefore the correspondences in the tables below will not hold.

Cooling	
Room temp. zone	Frequency Code
c	9
d	8
e	7
f	5
g	3
h	2
i	1
j	OFF

Heating	
Room temp. zone	Frequency Code
k	OFF (Hot keep fan)
j	1
i	1
h	2
g	3
f	4
e	5
d	6
c	8
b	A
a	B
z	C

Dry	
Room temp. zone	Frequency Code
e	4
f	3
g	2
h	1
i	OFF

c. Temperature adjustment

The temperature adjustment range is changed by changing the operating mode with the operation switch.

(1) Heating

If the room temperature is in the z zone when operation begins, proportional/integral control is not performed, and the machine runs at frequency code c full power until the h zone is reached. When the h zone is reached, the frequency changes to the frequency code determined by fuzzy calculation, and after that proportional/integral control is performed.

(2) Cooling

If the room temperature is in the c zone when operation begins,proportional/integral control is not performed, and the machine runs at frequency code 9 power until the h zone is reached. When the h zone is reached, the frequency changes to the frequency code determined by fuzzy calculation, and after thatproportional/integral control is performed.

(3) Dry

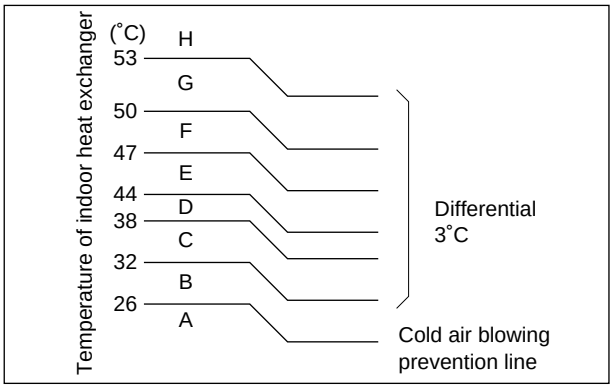
After operation begins, 2 minutes (running at the h zone) of the room temperature is stored in memory, and that becomes the set value.

(4) Circulation

The frequency code 0 is sent to the outdoor machine, and only the fan of the indoor machine runs, the compressor does not run.

1-2 Indoor fan control

This control uses the thermistor for the indoor heat exchanger to control cold air blowing prevention, the indoor fan, and overheating prevention.



(1) Control for indoor overheating prevention

If the temperature of the indoor heat exchanger exceeds the overheating prevention line during heating due to the operating frequency or the nature of the operation, this control lowers the frequency by 4 to 15 Hz. When the temperature goes below the overheating prevention line sixty seconds later, normal operation is restored.

Operating frequency	Overheating prevention line (°C)			
	Over 50 Hz	50 to 43 Hz	43 to 37 Hz	Below 37 Hz
During normal operation	54	53	52	51
During full power operation	57	56	55	54

(2) Control for indoor freezing prevention

If the temperature of the indoor heat exchanger stays below approximately 0°C for four minutes during cooling or dry, this control stops the compressor. Over 2˚C the compressor will run again.

(3) Control for cold air blowing prevention

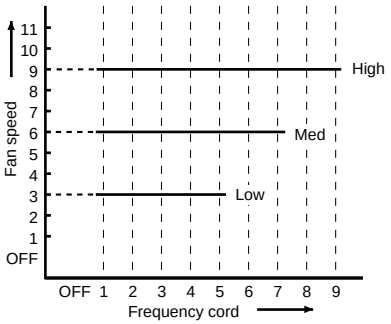
When heating begins, this control stops the indoor fan until the temperature of the indoor heat exchanger reaches 26°C. It also stops the fan if the temperature goes below 23°C during operation.

(4) Indoor fan and operating frequency

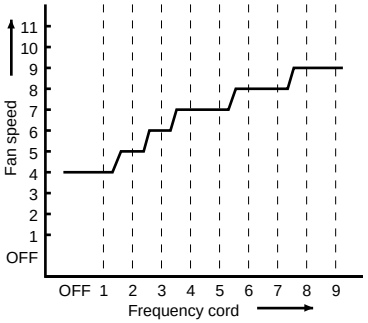
The indoor fan has 12 speeds, and changing is done in four stages, "Auto", "High", "Med", and "Low". The relations between the indoor fan speed, air quantity setting, operating frequency, and indoor heat exchanger are shown in the following charts.

COOLING

Fan speed : High / Med / Low

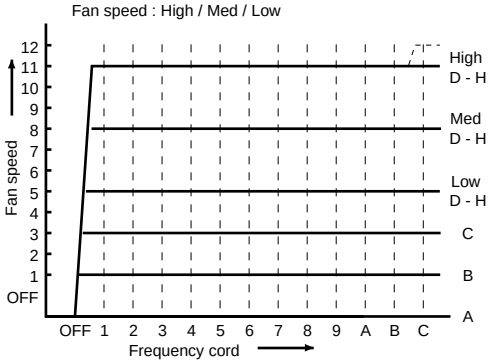


Fan speed : Automatic

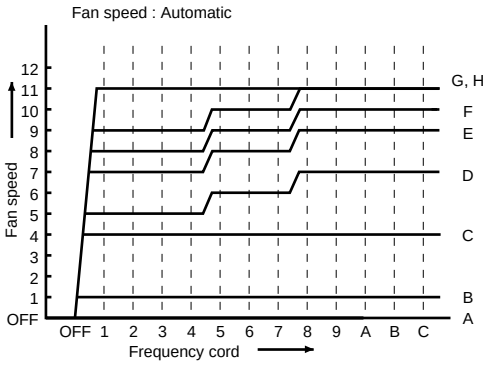


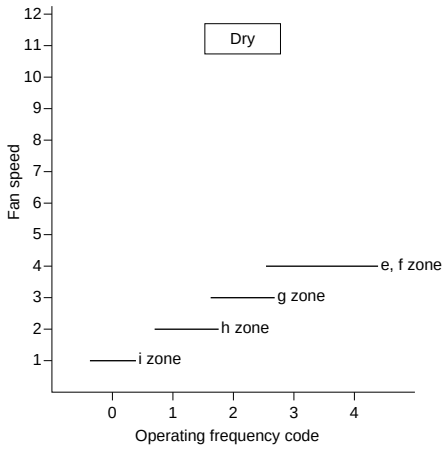
HEATING

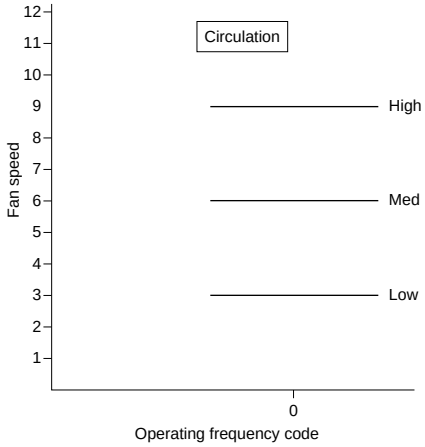
Fan speed : High / Med / Low



Fan speed : Automatic







1-3 Hot keep

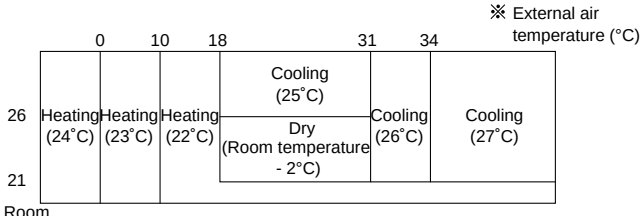
If the room temperature is in the j or k zone during heating, the compressor is turned on and off to prevent overheating.

Zone	Compressor intermittent time	Fan
J	3 min. on - 3 min. off	Same as Compressor
K	3 min. on - 8 min. off	After "3 min. on - 3 min.off" is repeated 4 times, the compressor goes off, and only the fan continues to repeat “3 min. on - 8 min.off”.

The fan goes off 30 seconds after the compressor goes off.

1-4 Automatic operation

The operating mode and temperature setting are determined by the room temperature and the external air temperature.



※ The external air temperature is determined by detecting the temperature of the outdoor heat exchanger.

1-5 ON-timer

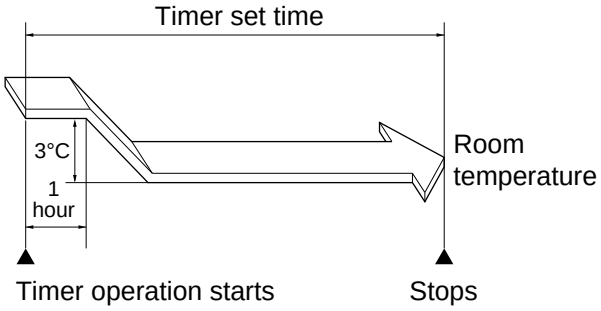
The ON-timer is set by pressing the ON-timer button. In order to attain the set temperature at the set time, the operation starting time is corrected by neuro and fuzzy computing one hour before the set time.

1-6 OFF-timer

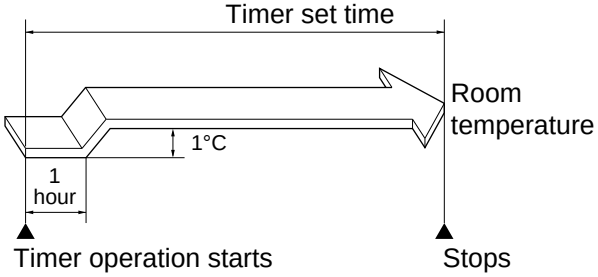
The OFF-timer is set by pressing the OFF-timer button. Operation is as follows:

	Set temperature
Cooling Heating	By fuzzy computing Set the shift up time Final (Cooling setting + 1°C / Heating setting - 3°C)
Dry	Same as above (Final setting + 1°C)

*During Heating



*During Cooling / Dry



1-7 Swing louvre

The louvre is moved by a stepping motor to perform swing and fixing in the set position.
If the "FLOW DIRECTION" button is prossed during swing, it will stop. If the "FLOW DIRECTION" button is prossed while it is stopped, it will swing.

1-8 Restart control

Once the compressor stops, this control prevents it from starting again for 3 minutes. It also prevents starting for 20 seconds immediately following plugging into the power outlet.

1-9 One-hour operation

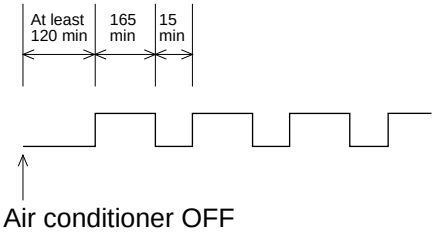
If this button is pressed when operation is stopped, operation will begin and then stop after 1 hour.
If pressed when it is operating, will stop after one hour.

1-10 Full power operation

Immediately begins cooling or heating at maximum power and air flow. Full power stops after 1 hour.
(During heating)
Operates at setting of 32°C.
(During cooling)
Operates at setting of 18°C.

1-11 Preheat

When heating is stopped, supplies a small amount of power to the compressor to make heating start more quickly.
Operates when the indoor temperature sensor and external air sensor detect that the room temperature and outdoor heat exchange temperature are low (below 18°C and 10°C, respectively). Stops when the compressor chamber temperature rises above 30°C.
Preheat does not operate for 2 hours after heating is stopped. After that, it goes on for 165 minutes and then stops for 15 minutes, repeatedly.

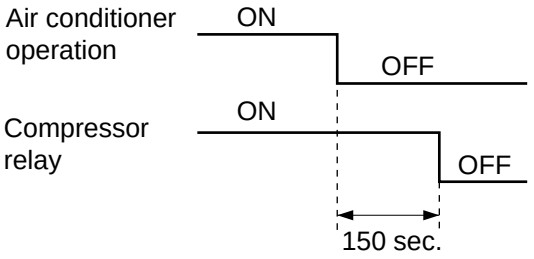


1-12 Power ON start

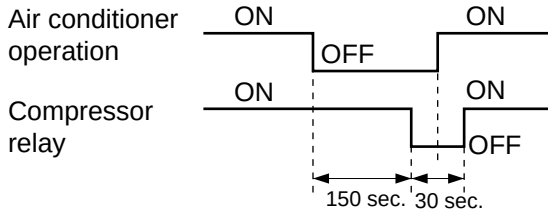
If a jumper wire is inserted into the place indicated power ON on the indoor control board, and the power plug is inserted. cooling or heating will be automatically determined by the room temperature sensor on the main unit, and operation will begin.

1-13 Compressor relay RY6

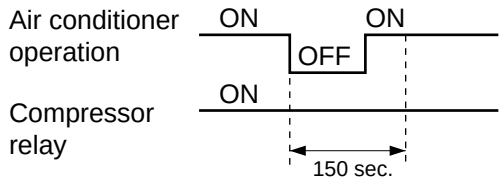
(1) It is ON during operation, and when operation is stopped, goes OFF after a delay of 150 seconds (not immediately).
(2) The minimum OFF time of the relay is 30 seconds.



It will not go ON again before 30 seconds elapses.
(3) If air conditioner operation is turned on again during



the 150 second delay before the compressor relay goes off, the compressor relay will stay on.



AU-X075E/X095E are not provided with the heating function.

2. OUTDOOR UNIT

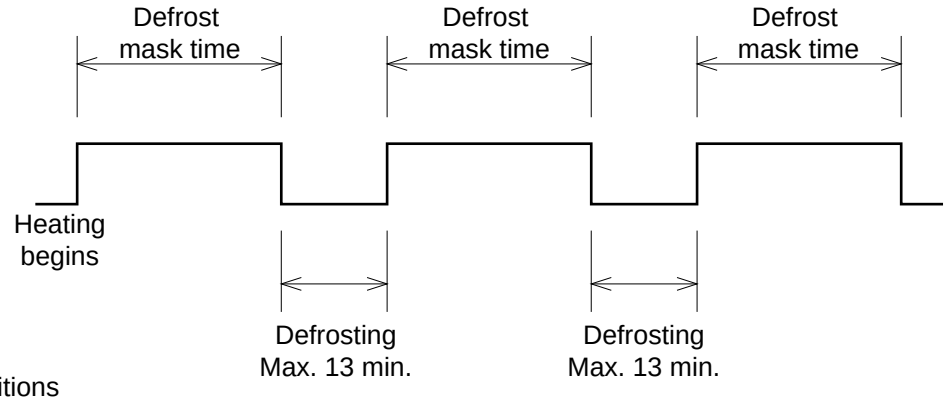
2-1 Defrost operation

(1) Overview

Defrosting begins during heating if the conditions for compressor operation time and outdoor heat exchanger temperature are met.

When defrosting begins, the indoor and outdoor fans stop.

Defrosting stops when the temperature of the outdoor heat exchanger goes above approximately 10˚C or defrosting time exceeds 13 minutes.



(2) Defrosting conditions

The temperature of the outdoor heat exchanger is detected by a sensor, and if it stays in the preset defrost zone for approximately 2 minutes, defrosting start is enabled.

If defrosting is enabled when the defrost mask time ends, defrosting is performed. If defrosting is not enabled, the machine waits until defrosting is enabled.

Defrost mask times and defrost zones are as shown below.

	Previous defrosting time	Current defrost mask time
First time	———	40 min.
Second time and thereafter	0.5 to 1.5 min.	90 min.
	1.5 to 3.0 min.	50 min.
	3.0 to 5.0 min.	40 min.
	5.0 to 7.0 min.	30 min.
	7.0 to 9.0 min.	25 min.
	Over 9.0 min.	20 min.

The defrosting zone is an outdoor heat exchanger temperature of under approximately -4˚C.

(3) During defrosting

When defrosting begins, the compressor stops. Approximately 3 minutes later, the compressor reactivates in the refrigeration cycle, and the outdoor heat exchanger is defrosted.

Each mode is as follows:

The outdoor fan is stopped

The operating frequency is as shown in the table below

The indoor fan is stopped

Model	Frequency	Model	Frequency
AE-X095E, AU-X095E	95Hz	AE-X075E, AU-X075E	90Hz

(4) Defrost stop

When defrosting time exceeds 13 minutes

When the temperature of the outdoor heat exchanger rises above approximately 10˚C

Defrost stop is determined by either of the above conditions, and the compressor is stopped.

At the same time, the outdoor fan go ON. The compressor is reactivated in the heating cycle 3 minutes after it was stopped, and normal control resumes.

2-2 Frequency control

(1) AC current peak control

This control lowers the compressor frequency if the AC current exceeds the set values. If the current is below the set values, the compressor frequency will not be raised above that frequency, as the maximum frequency, for 1 minute.

Model	Set value	
AE-X095E, AU-X095E	During heating	Approximately 7.0 A
AE-X075E, AU-X075E	During cooling	Approximately 6.5 A

(2) Control for prevention of indoor heat exchanger overheating

If the temperature of the indoor heat exchanger exceeds the overheating prevention line during heating due to the operating frequency or the nature of the operation, the frequency is lowered by approximately 5 to 10 Hz. After that, the frequency is lowered by approximately 5 to 10 Hz once every 60 seconds. When the temperature of the indoor heat exchanger goes below the overheating prevention line, the frequency is raised by approximately 5 Hz once every 60 seconds, and normal operation is restored.

If the frequency is lowered to 35 Hz without the temperature of the indoor heat exchanger decreasing and this condition lasts for 1 minute, the compressor will be stopped.

Operating frequency	Overheating prevention line			
	Above 50 Hz	50 to 43 Hz	43 to 37 Hz	Below 37 Hz
During normal operation	54	53	52	51
During full power operation	57	56	55	54

(3) Control for prevention of outdoor heat exchanger overheating

If the temperature of the outdoor heat exchanger exceeds approximately 57°C during cooling, the operating frequency is lowered by approximately 5 to 15 Hz. After that, the frequency is lowered by approximately 5 to 10 Hz once every 60 seconds. When the temperature of the outdoor heat exchanger goes below approximately 55˚C, the frequency is raised by approximately 5 Hz once every 60 seconds, and normal operation is restored.

If the frequency is lowered to 35 Hz without the temperature of the outdoor heat exchanger decreasing and this condition lasts for 1 minute, the compressor will be stopped.

(4) Control for prevention of discharge overheating

If the discharge temperature exceeds approximately 105°C during compressor operation, the operating frequency is lowered by approximately 5 Hz. After that, the frequency is lowered by approximately 5 Hz once every 60 seconds. When the temperature of the outdoor heat exchanger goes below approximately 104˚C, the frequency is raised by approximately 5 Hz once every 60 seconds, and normal operation is restored.

If the frequency is lowered to 35 Hz without the discharge temperature decreasing and this condition lasts for 1 minute, the compressor will be stopped.

(5) Control for prevention of indoor heat exchanger freezing

If the temperature of the indoor heat exchanger goes below approximately 5°C during cooling, the operating frequency is lowered by approximately 5 Hz. After that, the frequency is lowered by approximately 5 Hz once every 60 seconds. When the temperature of the indoor heat exchanger rises above approximately 5°C, the frequency is raised by approximately 5 Hz once every 60 seconds, and normal operation is restored.

If the temperature of the indoor heat exchanger goes down to approximately 0°C and this condition continues for 4 minutes, the compressor is stopped. When the temperature rises above approximately 2˚C, normal operation is restored.

2-3 Overcurrent protection

(1) Compressor lock detection

If the set value (3.0 A) of AC current is exceeded at 19 to 23 Hz when operation begins, operation is stopped. In this case, the compressor outdoor fan does not stop, and 170 seconds after operation is stopped, another try will be made. Three retries are allowed. On the fourth retry, a complete stop request signal is sent to the indoor unit, and the outdoor unit will remain stopped until reset is performed. At this time, the 3-minute delay for control of the outdoor unit will not function; therefore, do not cancel by removing the plug and cutting the power.

(2) DC overcurrent detection, AC overcurrent detection

To protect against overcurrent due to sudden changes in load, the compressor is stopped if the set value 30 A DC is exceeded in the DC section, or the set value 8.5 A AC is exceeded in the AC section. In this case, the outdoor fan does not stop, and 170 seconds after operation is stopped, another try will be made. Three retries are allowed. On the fourth retry, a complete stop request signal is sent to the indoor unit, and the outdoor unit will remain stopped until reset is performed. At this time, the 3-minute delay for control of the outdoor unit will not function; therefore, do not cancel by removing the plug and cutting the power.

2-4 Compressor protector control

If the temperature of the compressor chamber exceeds 114°C, the compressor is stopped. In this case, the outdoor fan does not stop, and when the compressor chamber temperature decreases to 100°C three minutes after operation is stopped, another try will be made. Three retries are allowed. On the fourth retry, a complete stop request signal is sent to the indoor unit, and the outdoor unit will remain stopped until reset is performed. At this time, the 3-minute delay for control of the outdoor unit will not function; therefore, do not cancel by removing the plug and cutting the power.

2-5 Power transistor module protector

If the temperature of the chips in the power transistor module exceeds 105 °C, the compressor is stopped. In this case, the outdoor fan does not stop, and when the temperature of the chips in the power transistor module decreases to 105 °C 170 seconds seconds after operation is stopped, another try will be made. Three retries are allowed. On the fourth retry, a complete stop request signal is sent to the indoor unit, and the outdoor unit will remain stopped until reset is performed. At this time, the 3-minute delay for control of the outdoor unit will not function; therefore, do not cancel by removing the plug and cutting the power.

2-6 Power factor module

If a voltage error (over 400 V), current error (over 17 A), or temperature error (over 90°C) is detected in the power factor module, 170 seconds the compressor is stopped. In this case, the outdoor fan does not stop, and 170 seconds after operation is stopped, another try will be made. Three retries are allowed. On the fourth retry, a complete stop request signal is sent to the indoor unit, and the outdoor unit will remain stopped until reset is performed. At this time, the 3-minute delay for control of the outdoor unit will not function; therefore, do not cancel by removing the plug and cutting the power.

2-7 Serial signals

(1) Serial signals consist of all 96-bit signals.

(2) If the outdoor unit does not receive a serial signal, it will stop approximately 30 seconds later. Note that this is true only of normal operation; in test mode, it does not stop and operation takes place based on the test mode commands.

2-8 Four-way rotary valve

The four-way rotary valve will not switch when there is a large difference in refrigerant pressure. To make the four-way rotary valve switch normally, switching is delayed by approximately 3 minutes and the refrigerant pressure difference is decreased first. Also, the temperature of the indoor heat exchanger at the time of compressor activation and the temperature 150 minutes after activation are compared, and it is determined whether or not they are suitable for the operating mode at that time. If they are not suitable, a four-way rotary valve error results and the compressor is stopped.

FUNCTION AND OPERATION OF PROTECTIVE PROCEDURES

NO	Function	Operation				Self diagnostic display	
		Description	Detection time	Restart condition	Restart times	Indoor	Outdoor
1	Indoor fan lock	Stops operation if no revolution pulse signal is input from the indoor fan motor for one minute.	When indoor fan is revolving	Operation OFF	No limit	Yes	No
	Indoor fan rpm error	Stops operation if the revolution pulse signal from the indoor fan indicates low rpm (approximately 300 rpm or less).					
2	Indoor freezing guard	Lowers the operating frequency if the temperature of the indoor heat exchanger goes below 5°C during cooling. Stops the compressor if the temperature stays below 0°C for 4 minutes.	During cooling and dry	Automatically restarts when the exchange temperature rises above the freezing prevention temperature (above 2°C)	No limit	No	No
3	Indoor overheating control	Lowers the operating frequency if the temperature of the indoor heat exchanger rises above the overheating temperature during heating. Stops the compressor if the temperature stays above the overheating temperature for 1 minute at 35 Hz or less. Set values for overheating temperature During normal operation: 51°C to 54°C During full power operation: 54°C to 57°C @ @ @ @ @ @ @	During heating	Automatically restarts when the exchange temperature goes below the overheating temperature.	No limit	No	No
4	DC overcurrent	Stops the compressor if a current of approximately 30 A or more flows in the power transistor module. Also stops the compressor if the temperature of the power transistor module is exceeds 105°C.	During compressor operation	Automatically restarts after safety time (170 seconds)	4 times	Yes	Yes
5	AC overcurrent	Lowers the operating frequency if the compressor AC current exceeds 7 A(X095E) or 6.5A(X075E). Stops the compressor if the current exceeds 7 A at 40 Hz or less. Stops the compressor if the compressor AC current exceeds 8.5 A(X095E) or 6.5A(X075E).	During compressor operation	Automatically restarts after safety time (170 seconds)	4 times	Yes	Yes
6	Compressor lock	Stops the compressor if the compressor AC current exceeds 3 A immediately after activating the compressor (at 19 to 23 Hz).	Immediately after compressor activation.	Automatically restarts after safety time (170 seconds)	4 times	Yes	Yes

NO	Function	Operation				Self diagnostic display	
		Description	Detection time	Restart condition	Restart times	Indoor	Outdoor
7	Compressor overheating control	Lowers the operating frequency if the temperature of the compressor chamber thermistor (TH1) rises above 105°C. Stops the compressor if the thermistor stays above 110°C for 4 minutes, or 1 minute at 35 Hz or less.	During compressor operation	Automatically restarts after safety time (170 seconds)	No limit	No	No
8	Compressor high temperature error	Stops the compressor if the compressor chamber thermistor is above 114°C. (Or when TH1 shorts)	During operation	Automatically restarts when thermistor (TH1) temperature falls below 100°C (approximately 30 minutes)	4 times	Yes	Yes
9	Outdoor overheating control	Lowers the operating frequency if the temperature of the outdoor heat exchanger rises above 57°C during cooling. Stops the compressor if the temperature stays above 57°C for 4 minutes, or 1 minute at 35 Hz or less.	During compressor operation	Automatically restarts after safety time ((170 seconds)	No limit	No	No
10	Outdoor thermistor short	Stops the compressor if an outdoor thermistor (excluding TH1) shorts.	When compressor is activated	Automatically restarts after safety time (170 seconds)	4 times	Yes	Yes
11	Outdoor thermistor open	Stops the compressor if the circuit of an outdoor thermistor breaks.	When compressor is activated	Automatically restarts after safety time (170 seconds)	4 times	Yes	Yes
12	AC abnormal current error	Stops the compressor if if the operating frequency is above 85 Hz and the compressor current is below 1.0 A.	During compressor operation	Automatically restarts after safety time (170 seconds)	4 times	Yes	Yes
13	Serial signal error	Turns the compressor relay off if the indoor unit does not receive a serial signal from the outdoor unit for 8 minutes.	During operation	Automatically restarts less than 8 minutes after operation stops	No limit	Yes	——
		Stops the compressor if the outdoor unit does not receive a serial signal from the indoor unit for 30 seconds.	During operation	Restarts after reception of serial signal	No limit	——	Yes
14	Four-way valve error	When the rise and fall in the detected temperature of the outdoor heat exchanger thermistor (TH2) do not agree with the operating cycle.	2 minutes and 30 seconds after compressor activation	Does not restart	4 times	Yes	Yes
15	Power factor module (Active filter) error	When an power factor module error input is detected.	During compressor operation	Automatically restarts after safety time (170 seconds)	4 times	Yes	Yes

REFRIGERANT CYCLE

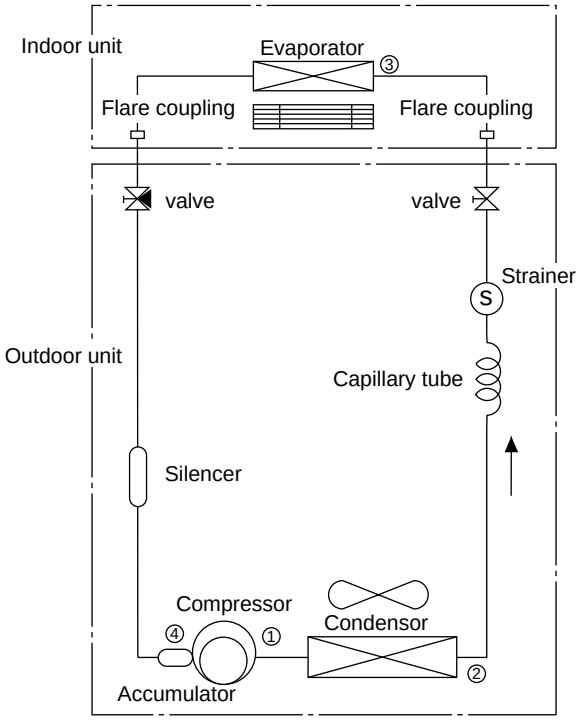


Figure R-1. Refrigeration Cycle for AH-X075E/X095E

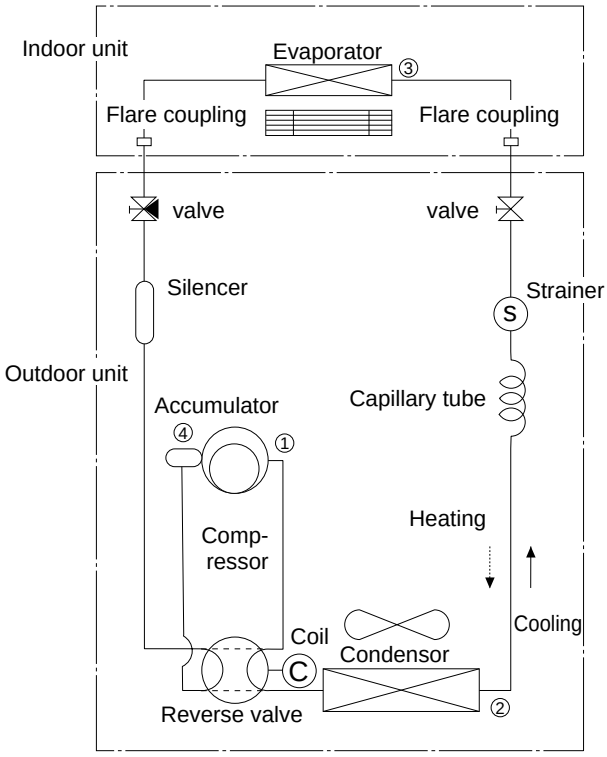


Figure R-2. Refrigeration Cycle for AY-X075E/X095E

Standard conditions:

AH-X075E / AH-X095E

	Indoor side		Outdoor side	
	Dry-bulb Temp. (˚C)	Relative Humidity (%)	Dry-bulb Temp. (˚C)	Relative Humidity (%)
Cooling	27	47	35	40

Temperature at each part and pressure in 3-way valve

AH-X075E

Operation mode	Cool (Max.)	Cool
No. \ Hz	86	50 settle
①	96˚C	68˚C
②	43˚C	40˚C
③	11˚C	12˚C
④	14˚C	7˚C
3-way valve pressure (kg/cm^2 G)	4.4	5.9

AH-X095E

Operation mode	Cool (Max.)	Cool
No. \ Hz	90	60 settle
①	100˚C	75˚C
②	45˚C	40˚C
③	11˚C	13˚C
④	15˚C	9˚C
3-way valve pressure (kg/cm^2 G)	4.5	5.7

Dimension of Capillary tube

AH-X075E

	O.D	I.D.	L
Capillary tube	ø2.7	ø1.4	700

AH-X095E

	O.D	I.D.	L
Capillary tube	ø2.7	ø1.5	800

Standard conditions:

AY-X075E / AY-X095E

	Indoor side		Outdoor side	
	Dry-bulb Temp. (˚C)	Relative Humidity (%)	Dry-bulb Temp. (˚C)	Relative Humidity (%)
Cooling	27	47	35	40
Heating	20	——	7	87

Temperature at each part and pressure in 3-way valve

AY-X075E

Operation mode	Cool (Max.)	Heat (Max.)	Cool	Heat
No. \ Hz	86	more than 90	50 settle	60 settle
①	96˚C	98˚C	68˚C	55˚C
②	43˚C	1˚C	40˚C	3˚C
③	11˚C	35˚C	12˚C	35˚C
④	14˚C	0˚C	7˚C	2˚C
3-way valve pressure (kg/cm^2 G)	4.4	20.0	5.9	14.0

AY-X095E

Operation mode	Cool (Max.)	Heat (Max.)	Cool	Heat
No. \ Hz	90	more than 100	60 settle	60 settle
①	100˚C	100˚C	75˚C	55˚C
②	45˚C	0˚C	40˚C	3˚C
③	11˚C	35˚C	13˚C	35˚C
④	15˚C	0˚C	9˚C	2˚C
3-way valve pressure (kg/cm^2 G)	4.5	20.0	5.7	14.0

Dimension of Capillary tube

AY-X075E

	O.D	I.D.	L
Capillary tube	ø2.7	ø1.4	700

AY-X095E

	O.D	I.D.	L
Capillary tube	ø2.7	ø1.5	800

PERFORMANCE CURVES

NOTE: 1) Indoor fan speed: Hi
2) Vertical adjustment louver "45˚", Horizontal adjustment louver "front"
3) Indoor air temp. : Colling 27˚C

(Running frequency: 68HZ)

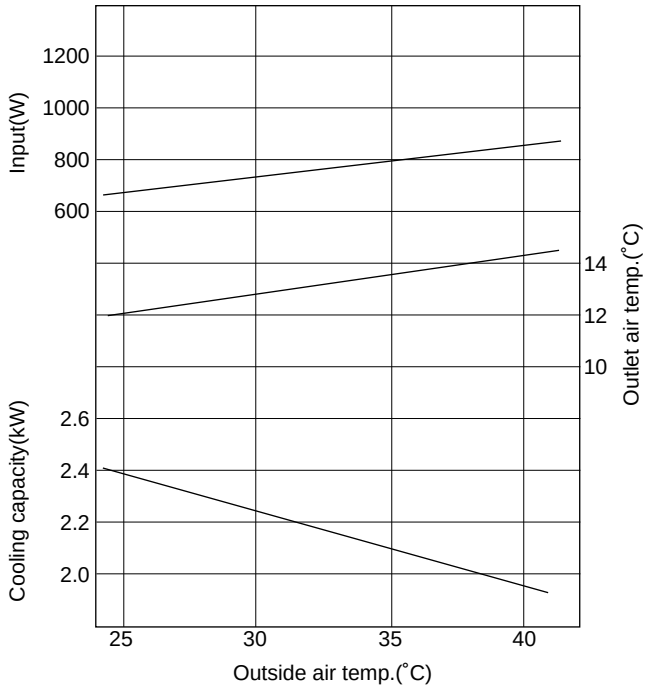


Figure P-1. At Cooling for AH-X075E

(Running frequency: 88Hz)

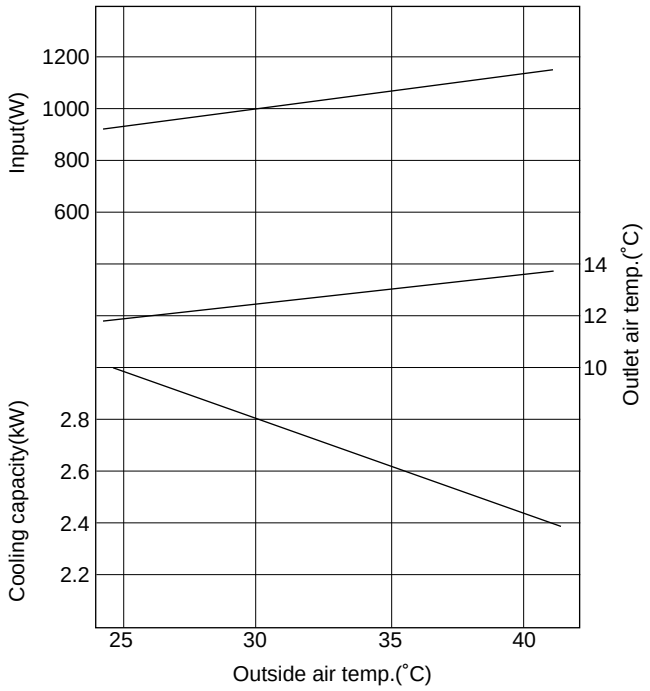


Figure P-2. At Cooling for AH-X095E

NOTE: 1) Indoor fan speed: Hi
2) Vertical adjustment louver "45˚", Horizontal adjustment louver "front"
3) Indoor air temp. : Colling 27˚C

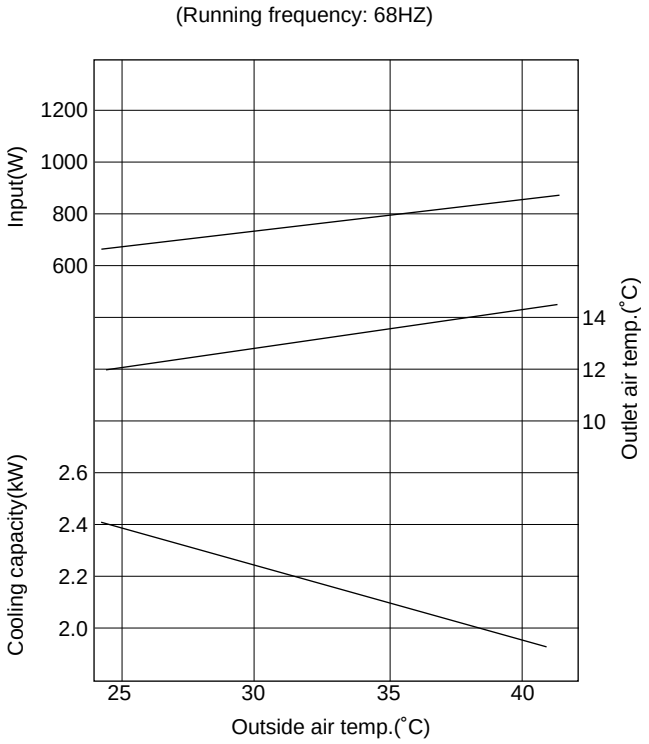


Figure P-3. At Cooling for AY-X075E

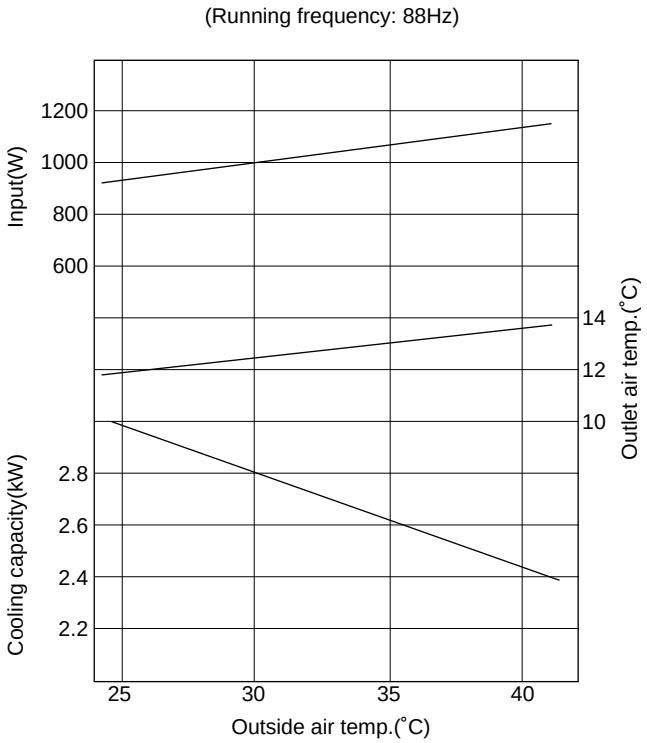


Figure P-4. At Cooling for AY-X095E

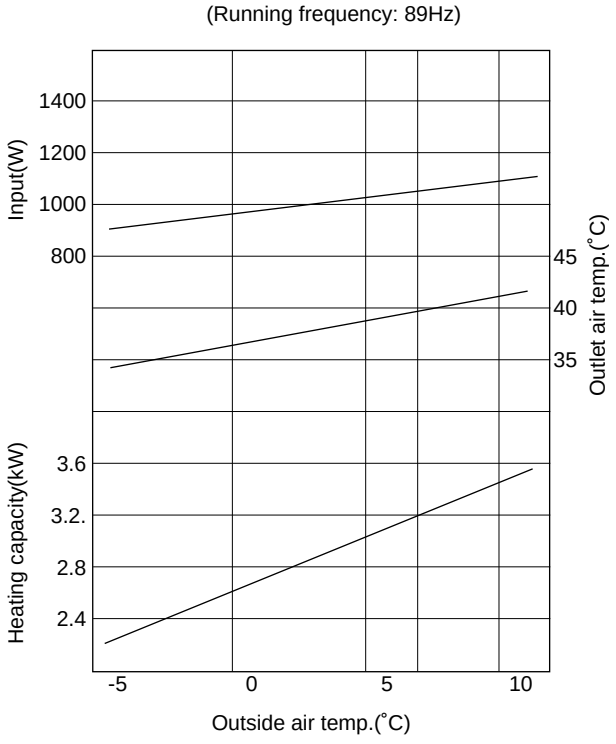


Figure P-5. At Heating for AY-X075E

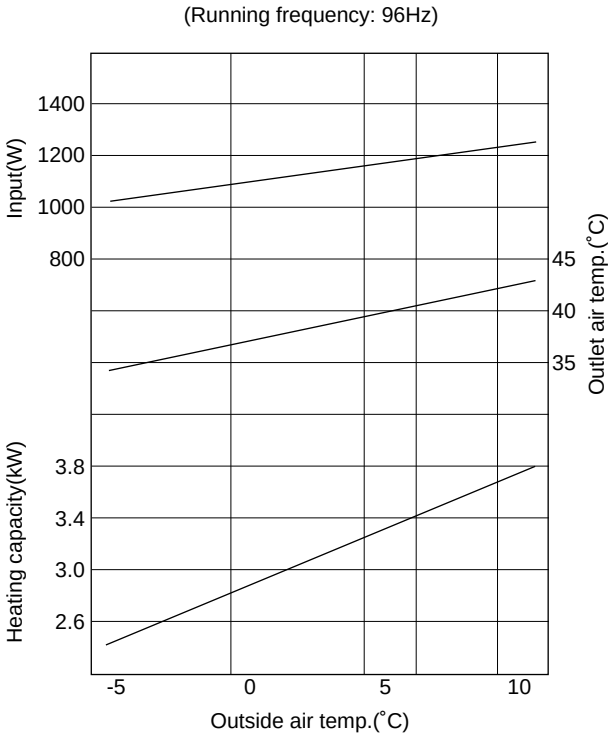


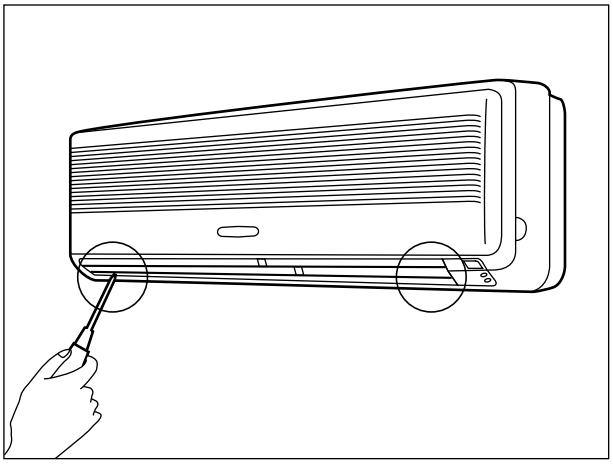
Figure P-6. At Heating for AY-X095E

DISASSEMBLING PROCEDURE

FOR INDOOR UNIT MODEL AH-X075E/X095E AND AY-X075E/X095E

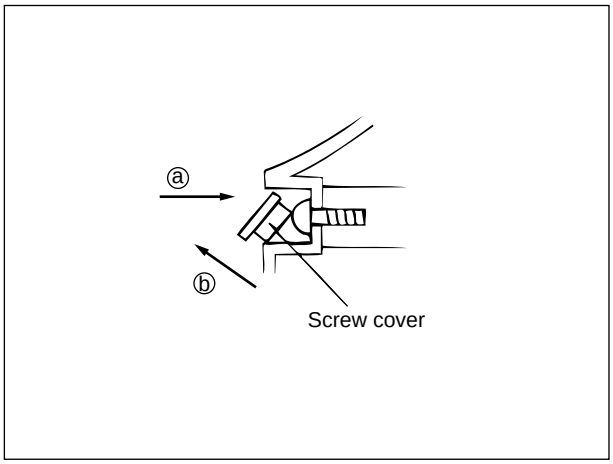
CAUTION: DISCONNECT THE UNIT FROM THE POWER SUPPLY BEFORE ANY SERVICING

1. Using the narrow slotted screwdriver or similar, remove the screw cover from the front panel.

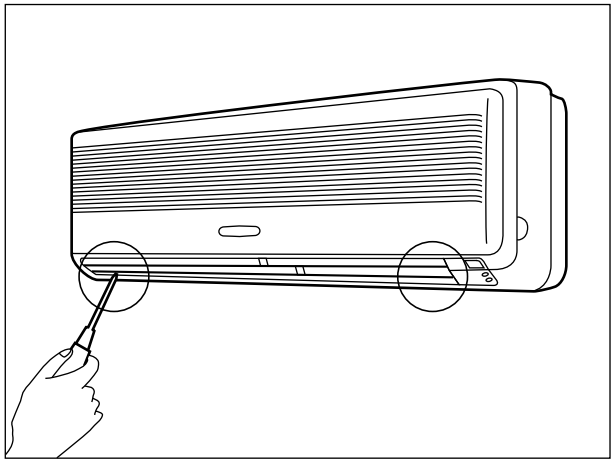


How to remove the screw cover

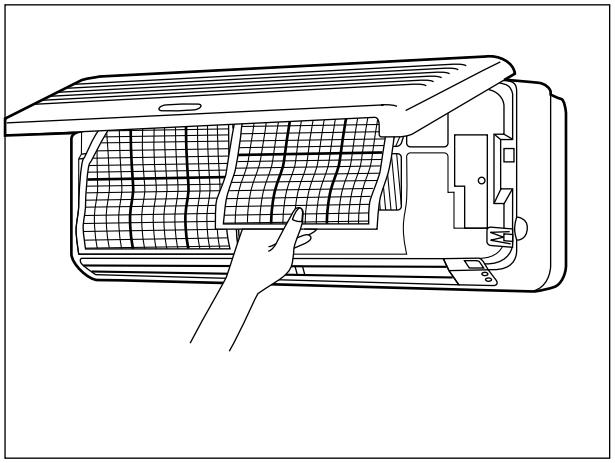
a. Press the top of the screw cover with the flat-tipped screwdriver (or nail, etc).
b. Insert the flat-tipped screwdriver (or nail, etc) into the lower clearance, and pull and lift it toward you for removal.



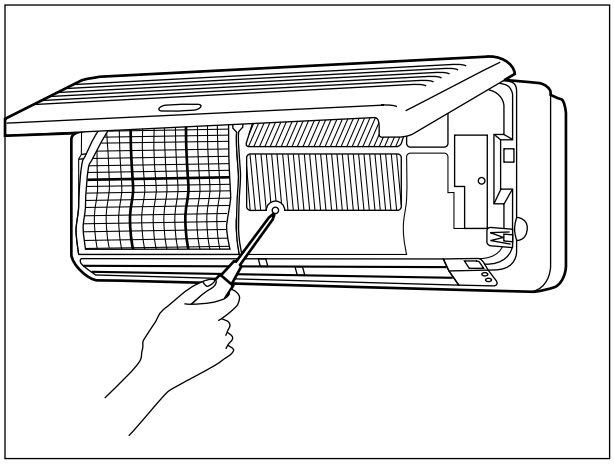
2. Remove two screws from the front panel.



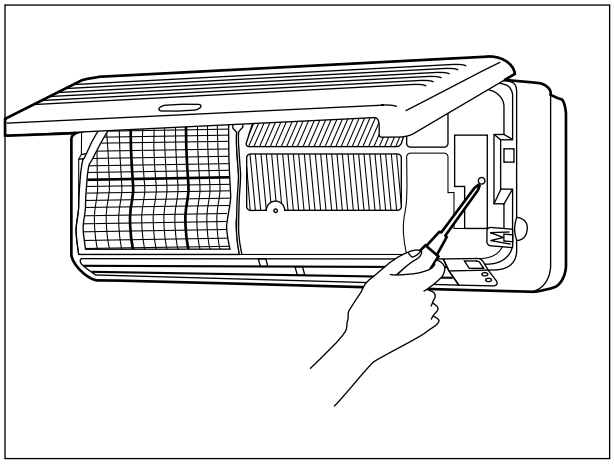
3. Open the open panel, and remove the right air filter.



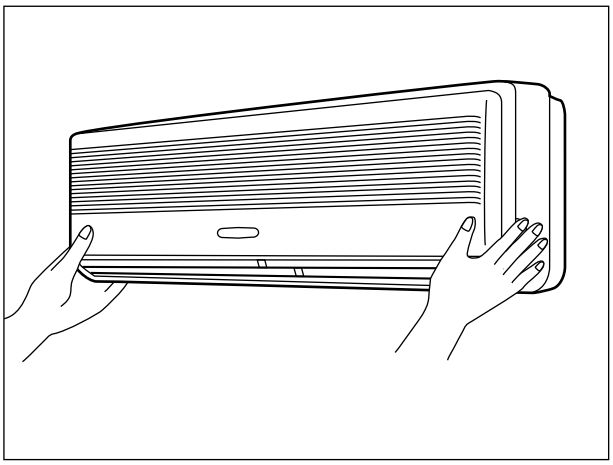
4. Remove one inner screw.
Note: During reassembly, don't tighten the screw strongly, or it will become idle.



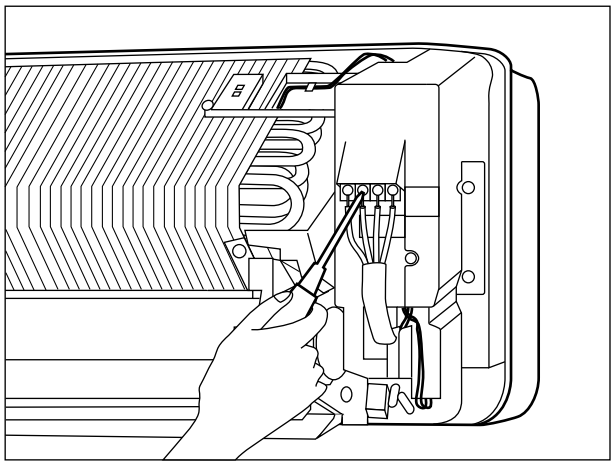
5. Remove the fastening screw which retains the cable, and remove the cord.
Note: During reassembly, install the holder after installing the front panel. This will make it easier to assemble the front panel.



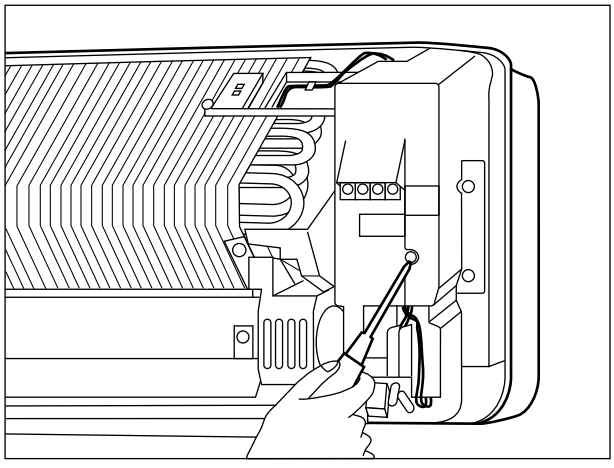
6. After closing the open panel, open the vertical adjustment louver and pull out the bottom of the front panel toward you.
   Lifting the front panel, strongly pull the top toward you. Making the front panel parallel to the main body, strongly pull it toward you for removal.
   To install the front panel, place the bottom of the front panel under the open vertical adjustment louver, and press in the front panel, parallel to the cabinet. When pressing it in, take care to prevent the top of the blow-out port of the drain pan from being caught by the front panel.



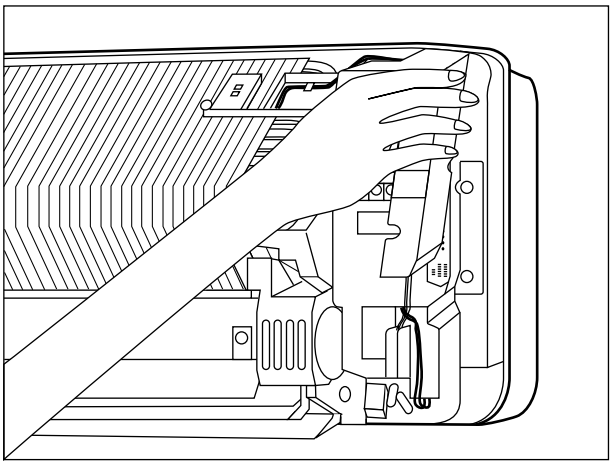
7. Remove the unit-to-unit wiring from the terminal board. (Loosen the screw with the screwdriver, and pull out the wiring.)



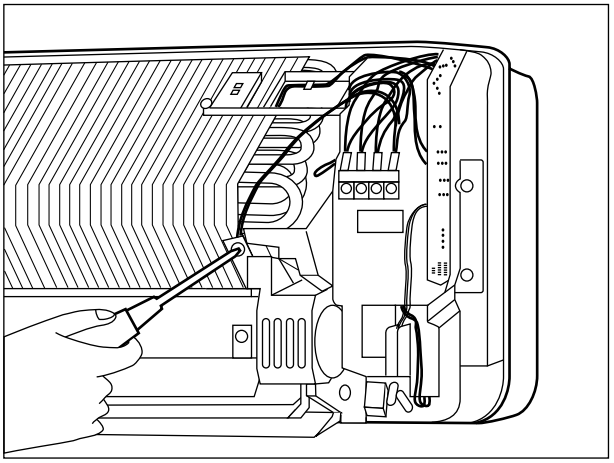
8. Remove one fastening screw from the control box cover.



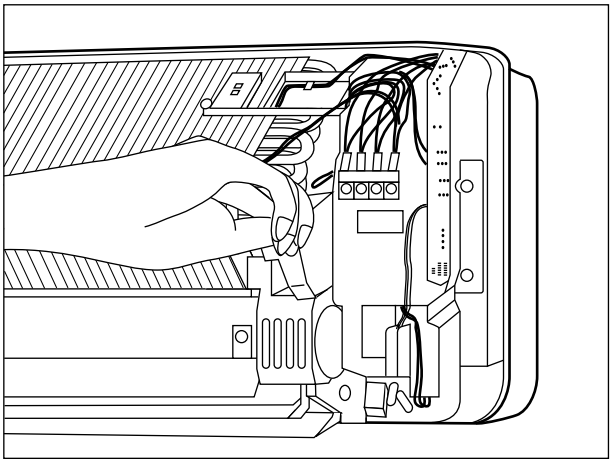
9. Remove the control box cover.
   Holding its bottom, pull and disengage the upper hook toward the bottom.



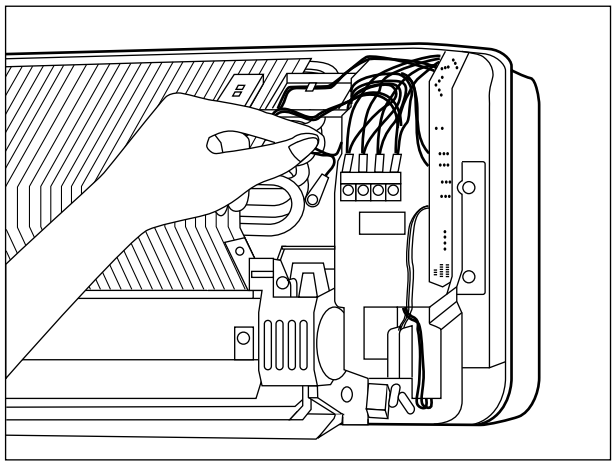
10. Remove the ground wire. (One screw)
    Note: During reassembly, take care for the direction of the lead wire.



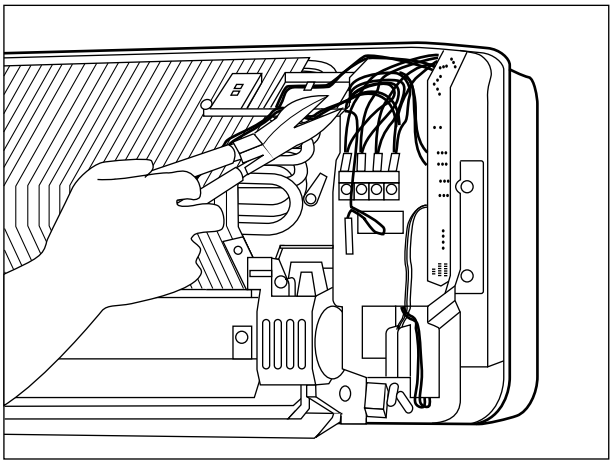
11. Remove the protect cover for the dew.
    Note: During reassembly, verify that the dew on the pipe is recovered to the drain pan.



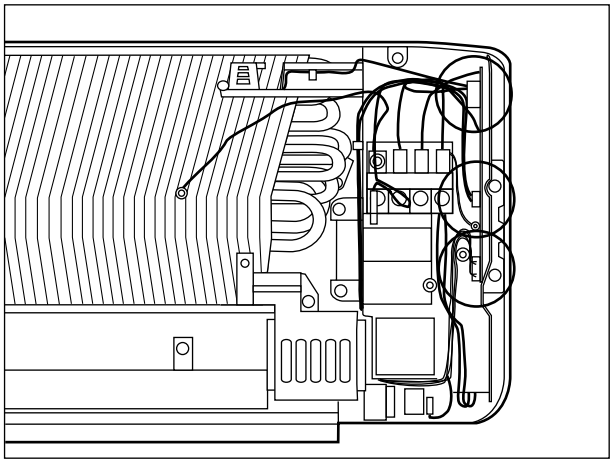
12. Remove the thermostat of the evaporator.
(Pull it out after peeling off the thermoseal.)



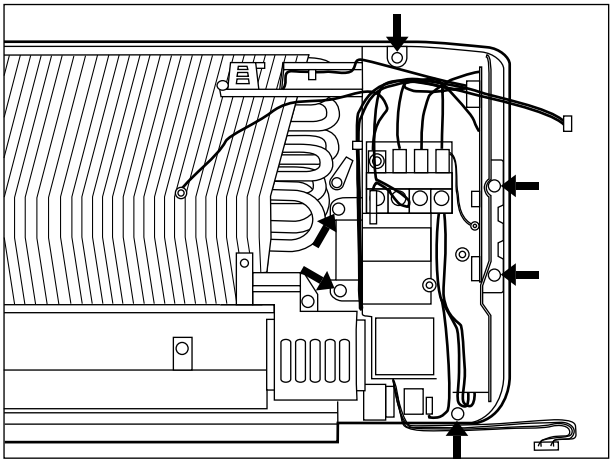
13.Cut the tie band of the lead wire.



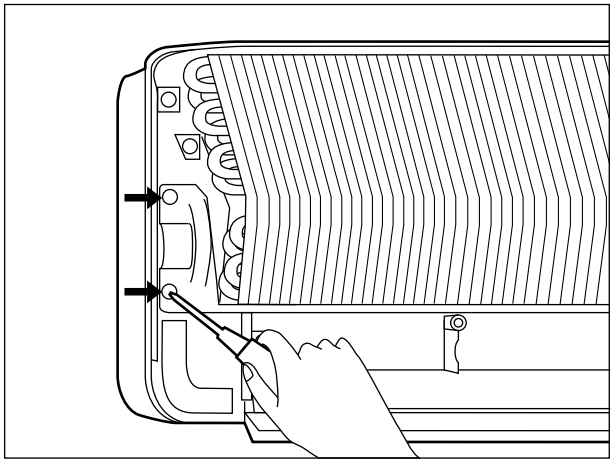
14.Remove two connectors of the fan motor and one of louver motor.



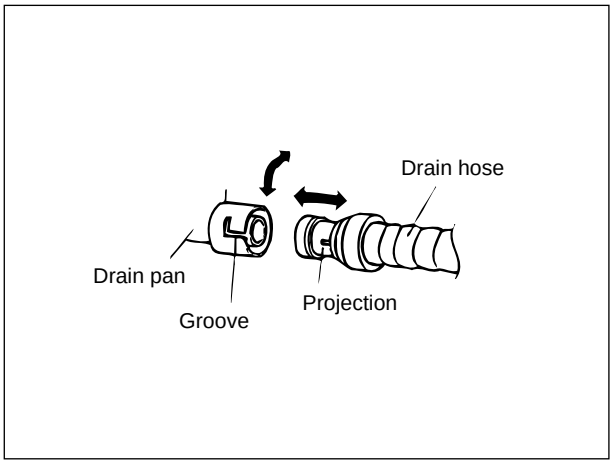
15.Remove six fastening screws of the control box, and remove the control box.



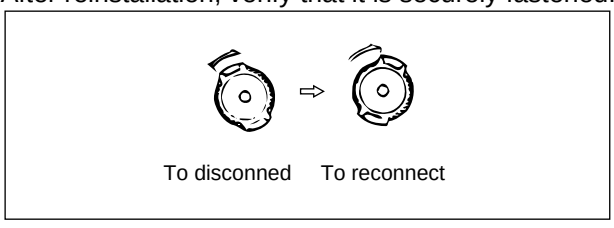
16.Remove the fastening screws of the drain pan. (Two screws on the left side).



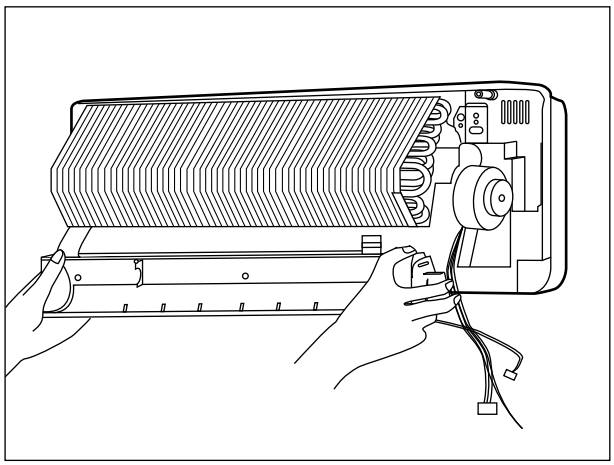
17.Turn the cap area of the drain hose counterclockwise, and remove it from the drain pan.

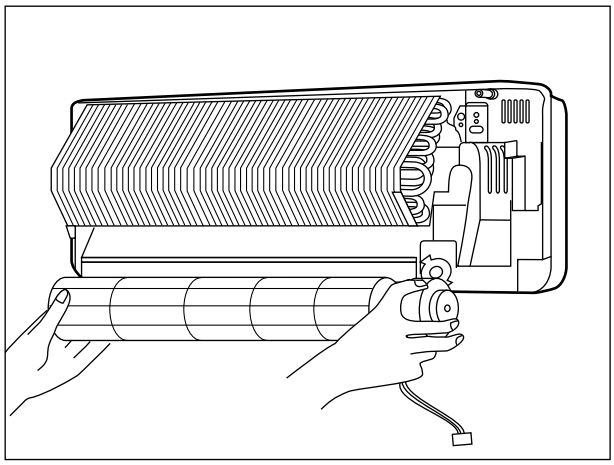


During installation, turn the drain hose to the state of the "engagement position".
After reinstallation, verify that it is securely fastened.

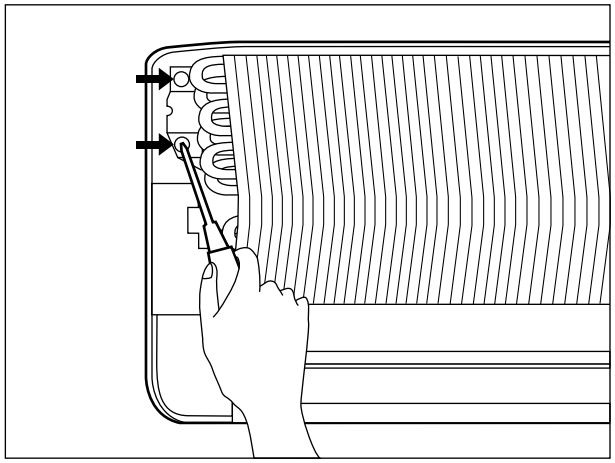


18.Pull down the drain pan toward you for removal.

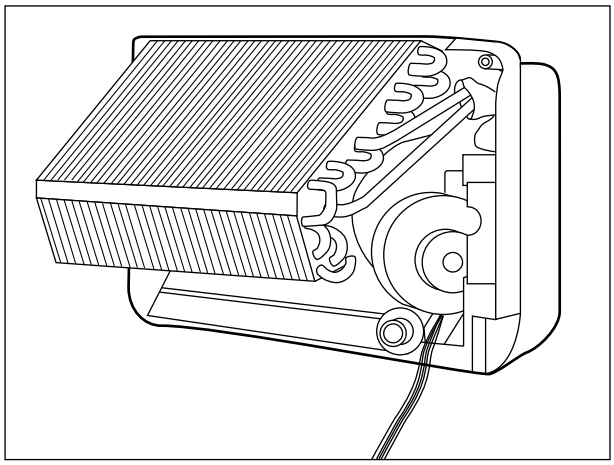




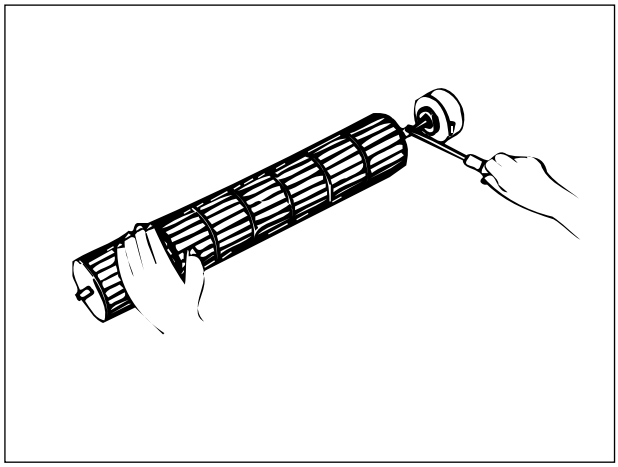
19.Remove two fastening screws of the evaporator.



20.Move the evaporator to the right, and release it from two hooks. Free the evaporator, and pull down the cross-flow fan and motor toward you. Remove them together. (If it is tried to remove the fan alone, it will damage the inner surface of the metal to prevent removing the fan.)

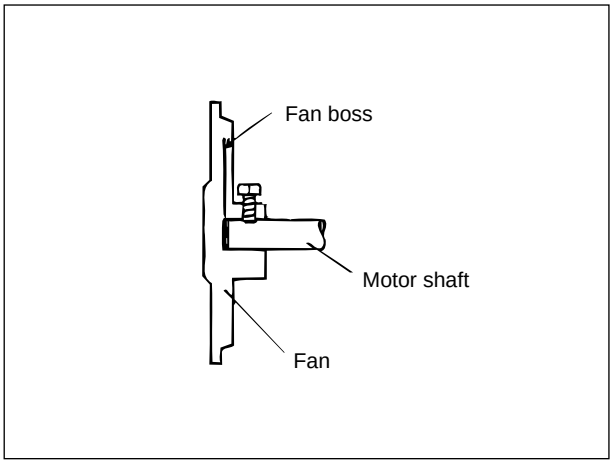


21.Loosen the fan fastening screw, and remove the fan.

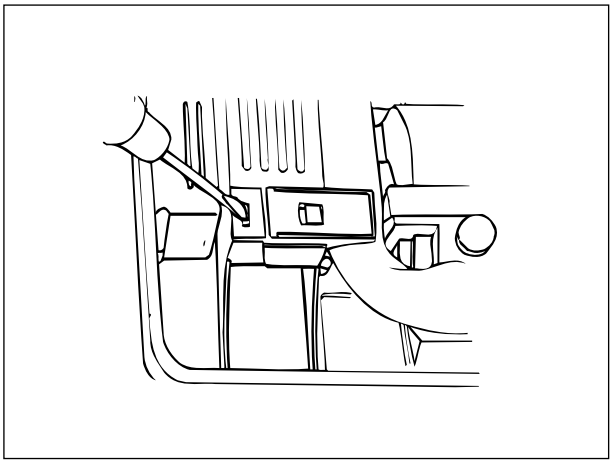


<Cautionary points for assembling the fan>

a. When inserting the shaft of the cross-flow fan into the metal, take care to prevent injuring the inner surface of the metal.
b. Before fastening the motor shaft and fan, insert the shaft into contact with the fan boss.

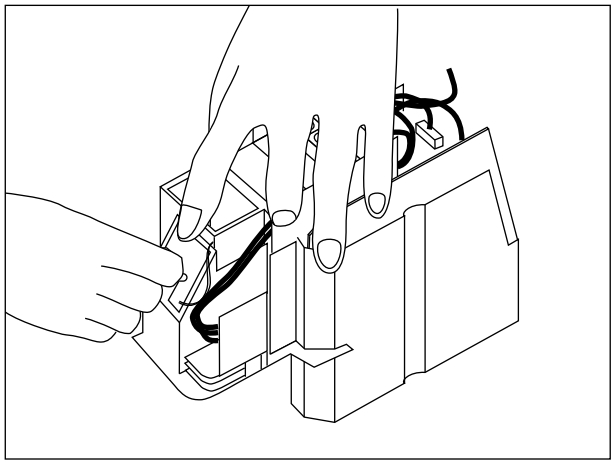


22. To remove the evaporator, remove the tube holder on the rear side of the cabinet, slightly lift the left side, slide it to the right, and remove it from the cabinet, pulling it toward you.

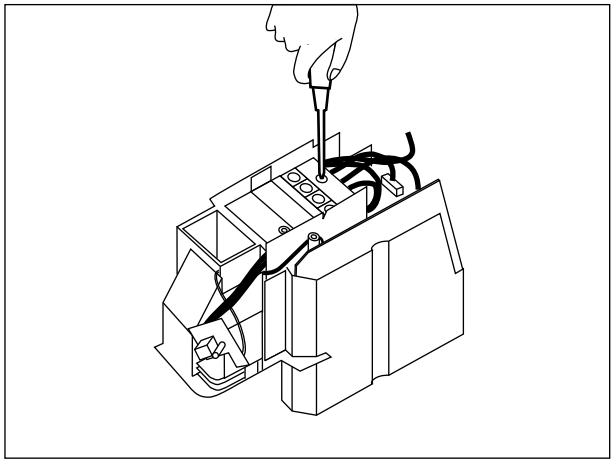


How to remove the electric control box.

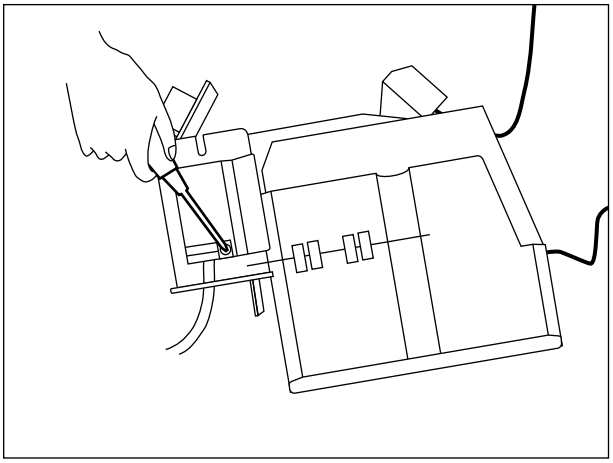
1. Remove the indicator assembly.
   (Press and spread the upper hook, and the indicator will be ready for removal.)



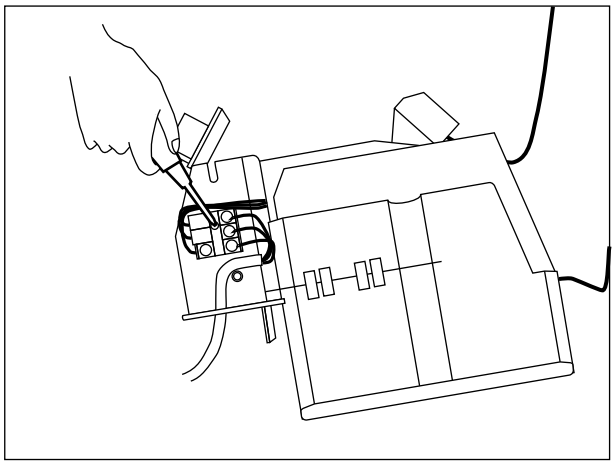
2. Remove the fastening screw of the terminal board.



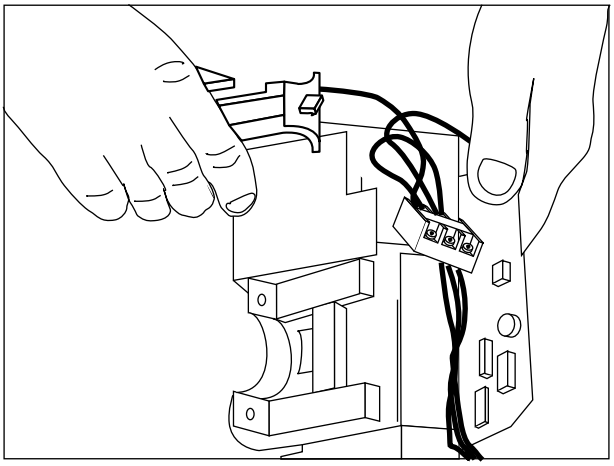
3. Remove the cord holder fastening screw of the power supply cord.



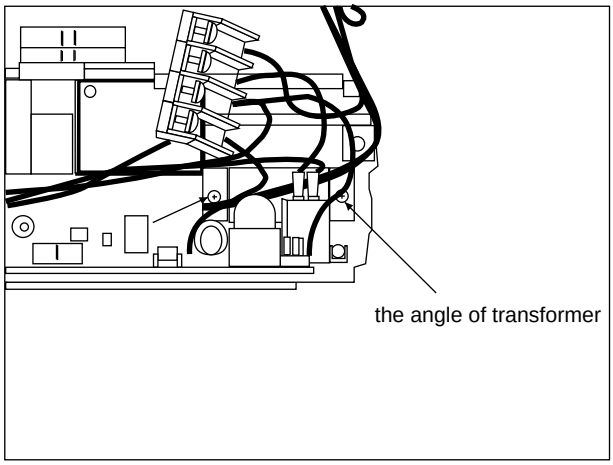
4. Remove the terminal board fastening screw of the power supply cord.



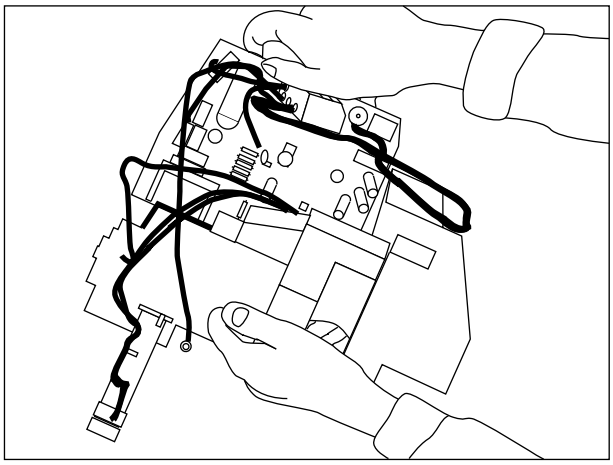
5. Remove the thermostat holder from the control box.



6. Remove the board fastening screws.



7. Pull out the board.

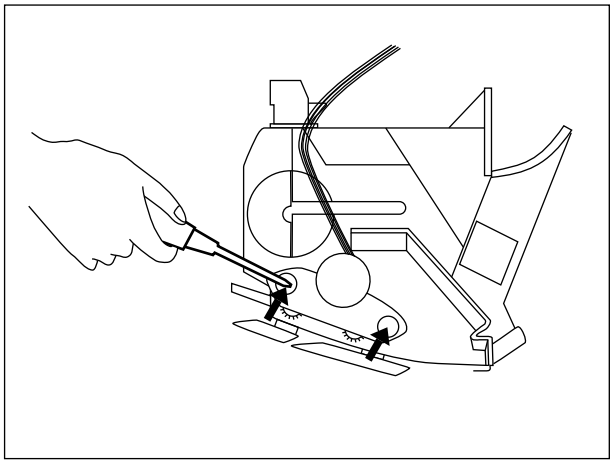


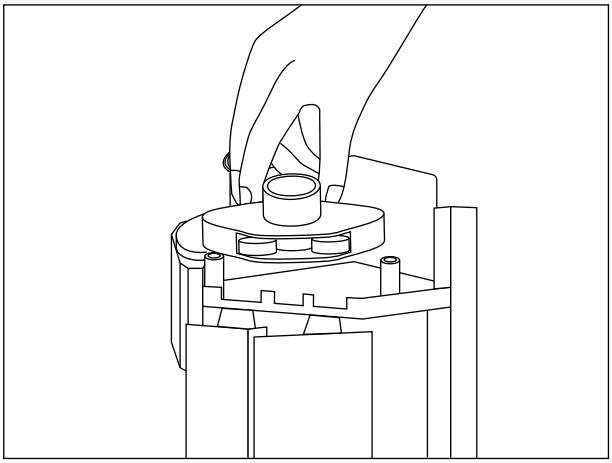
Drain pan and related

How to remove the gear box assembly

Remove two screws which fasten the gear box assembly.

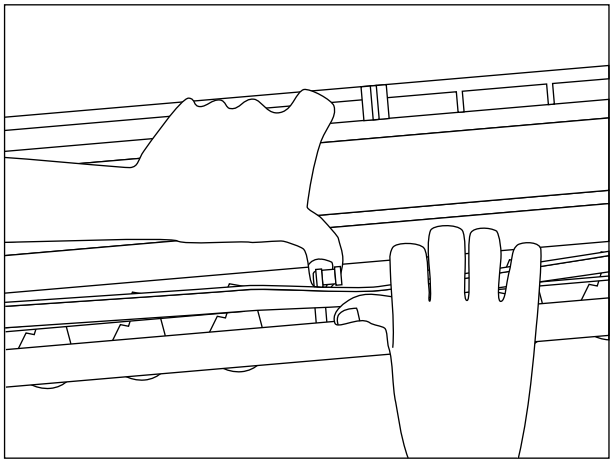
Note When installing the gear box assembly, fit it, aligning the notch shape of the groove of the vertical adjusment louver.





How to remove the vertical adjustment louver

Slightly fall down the hinge area, deflect the louver, and remove it at one place. Remove the shaft from each of the left and right sides.

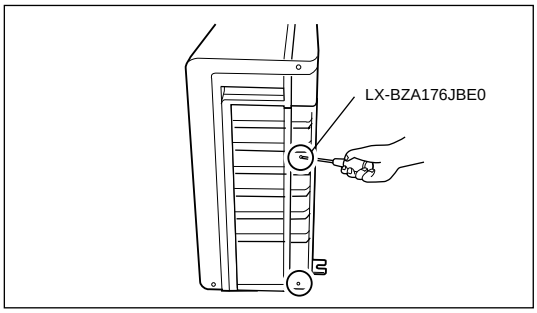


SERVICING PROCEDURE

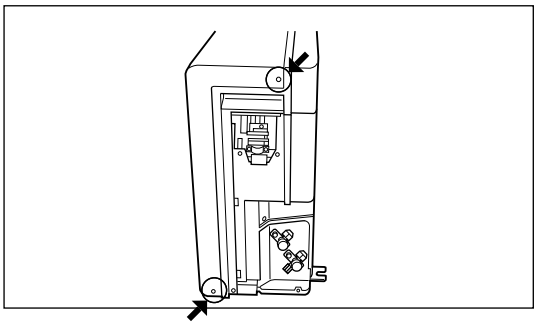
FOR OUTDOOR UNIT MODEL AU-X075E/X095E AND AE-X075E/X095E

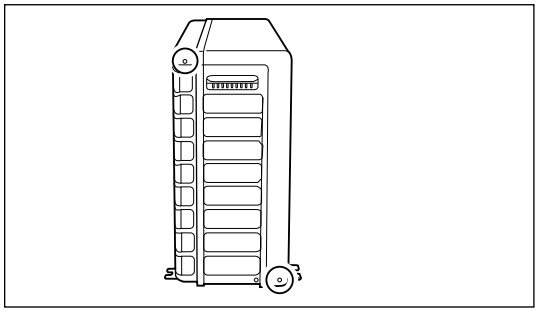
CAUTION: DISCONNECT THE UNIT FROM THE POWER SUPPLY BEFORE ANY SERVICING

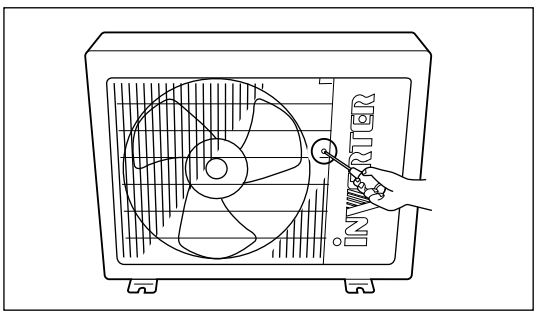
1. Remove the lid of the control box. (2 screws)
Disconnect the unit-to-unit wiring from the terminal board.



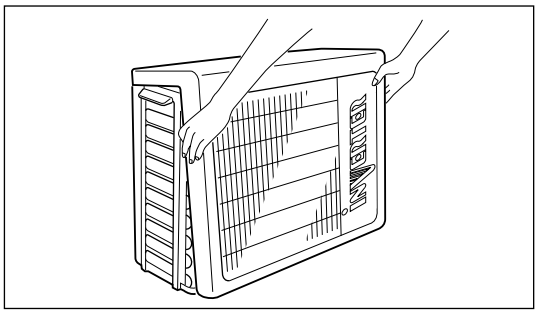
2. Free the front panel assembly.
Remove 2 screws from each of the right and left sides and one screw from the front side.



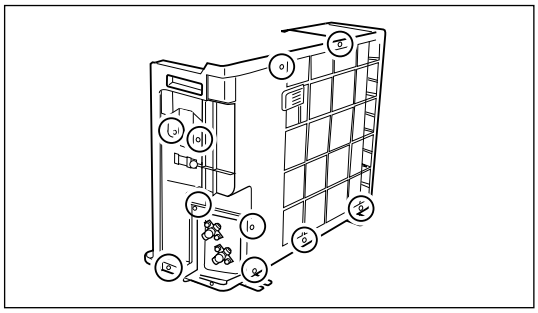


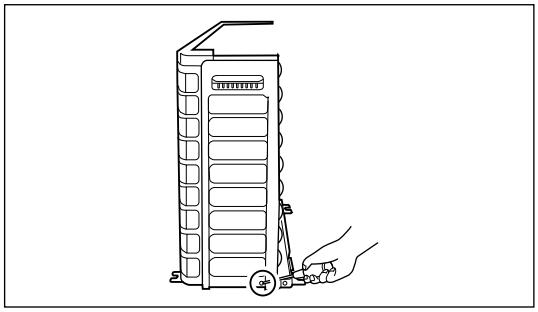


3. Remove the front panel assembly.
Pulling the bottom toward you, disengage 2 hooks on the rear surface.

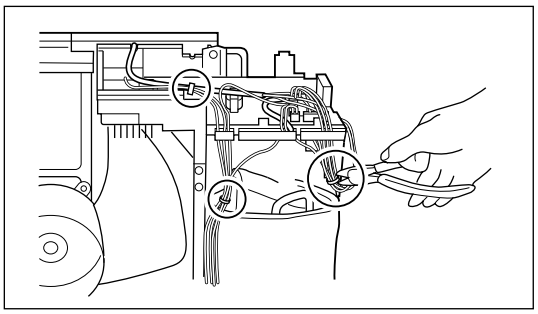


4. Remove 11 screws which fasten the rear panel assembly.
(Even though the rear panel assembly is not removed, most of the services are possible.)

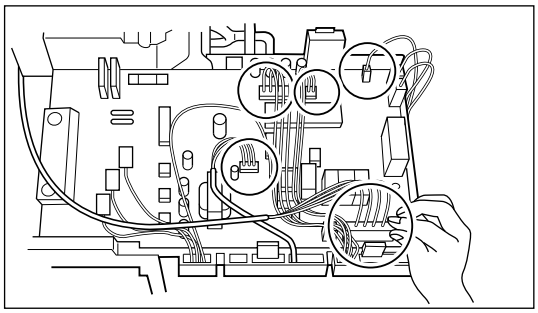


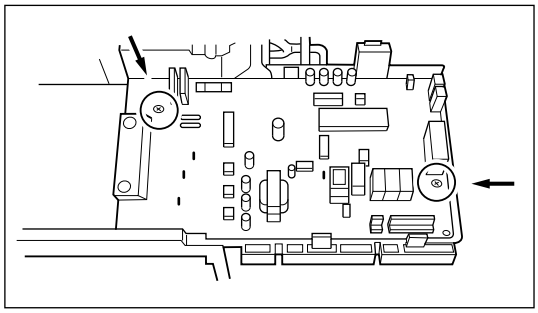


5. Cut the tie band. (2 places)



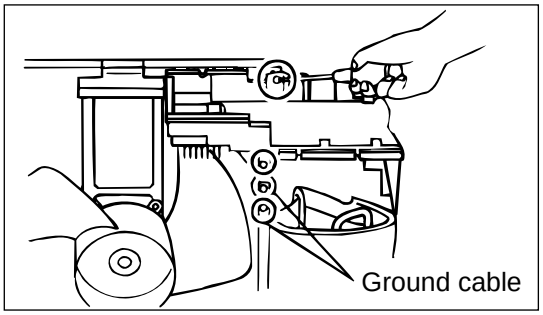
6. Disconnect the connector. (4 places)
   Disconnect the Faston terminal. (10 places)



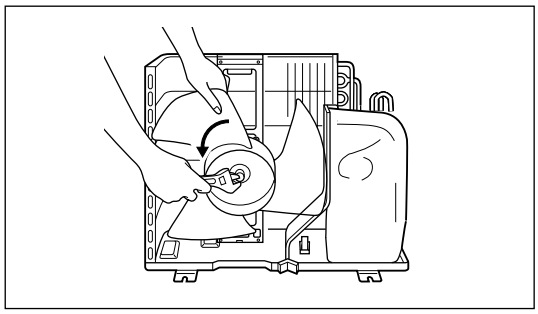


Remove the 2 screws of the control PWB, and the control circuit will be ready for removal from the control box.

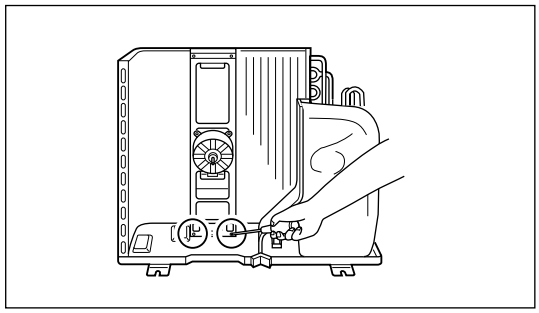
7. Remove 2 fastening screws of the control box.
   Remove 2 small screws which fasten the ground cable.
   Remove the electric battery box.



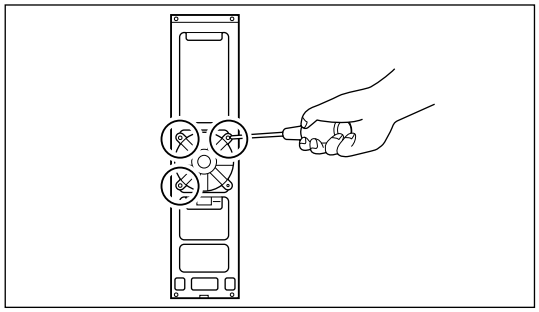
8. Remove the outdoor fan.



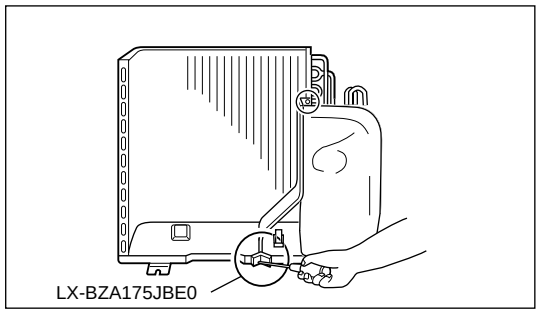
9. Remove 2 screws which fasten the motor angle.
   Pull up the motor angle for removal.
   (During reassembling, treat the lead wire to prevent it from being in contact with the propeller fan.)



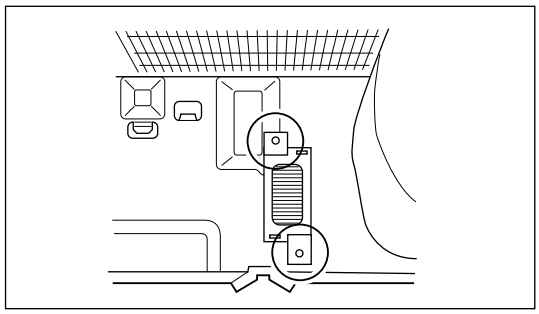
10. Remove 3 motor fastening screws, and remove the motor.



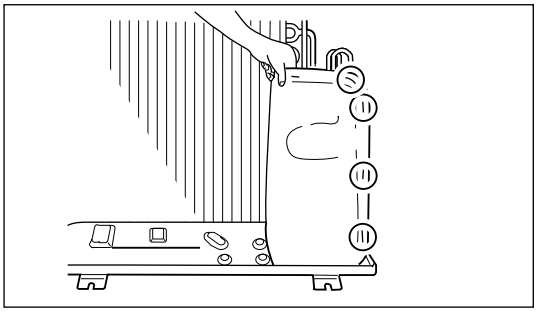
11. Remove the bulk head.
    Remove 2 fastening screws. Lifting the bulk head, remove 2 inner hooks.



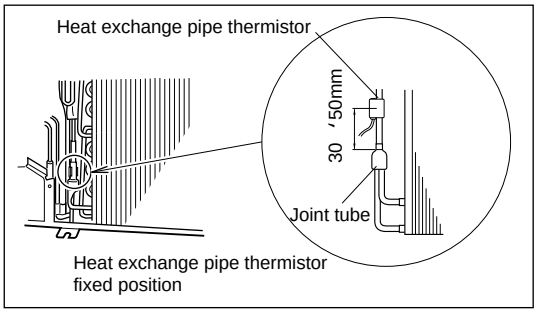
12. Remove 2 screws which fasten the choke coil, and remove the choke coil.



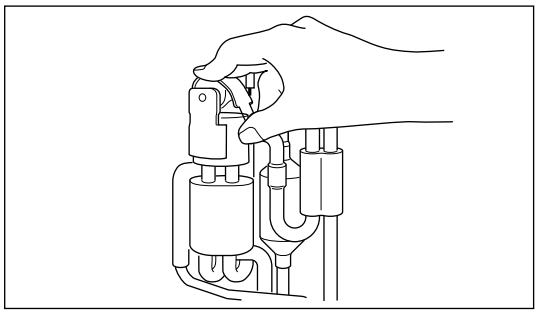
13. Remove the compressor cover. (Remove four staples.)

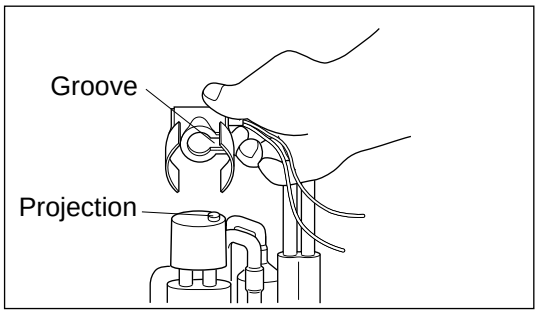


14. Remove the thermostat of the heat exchanger.



15. **(AE-X075E/X095E only)**
Remove the coil of the four-way valve.
After removing the fastening spring of the four-way valve, pull up the coil for removal.
Note: During reassembling, engage the projection of the main body of the four-way valve into the groove of the coil. Take care for the polarity of the coil wiring.

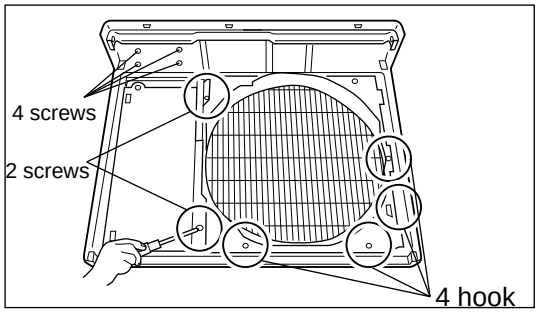




16. Remove the front panel assembly.

Orifice	2 screws	4 hooks
Control cover	4 screws	
Wire guard	4 screws	

Remove these screws and disengage these hooks.



17. **Cautions when replacing the Power Factor Module, Power Transistor Module, or Diode Bridge**
(1) The screws should be firmly tightened at the torque of 8 to 10 kg f cm (78.4 to 98 N).
(2) For the Power Transistor Module or Diode Bridge, be sure to insert the silicon sheet between it and radiator plate.
(3) For the Power Factor Module, the silicon grease should be evenly applied between it and radiator plate.

REPLACEMENT PARTS LIST (AH-X075E/AH-X095E)

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
		CABINET AND UNIT PARTS		
1- 1	CMOT-A263JBE0	Fan motor sub assembly	1	BH
1- 2	PGUMMA071JBE0	Motor cushion	1	AN
1- 3	CHLD-A050JBK0	Bearing assembly	1	AG
1- 4	DCHS-A233JBK0	Cabinet assembly	1	AX
1- 5	NFANCA058JBE0	Cross flow fan	1	AS
1- 6	CSRA-A375JBK0	Drain pan assembly	1	BE
1- 7	DSRA-A186JBK0	Drain pan sub assembly	1	AV
1- 8	MJNTPA058JBFA	Louver link	2	AC
1- 9	MLOV-A184JBFA	Horizontal adjustment louver	10	AB
1- 10	MLOV-A172JBFA	Vertical adjustment louver	1	AH
1- 11	MLOV-A173JBFA	Vertical adjustment louver	1	AK
1- 12	GGAD-A029JBTA	Fan guard	1	AX
1- 13	LHLD-A197JBFA	Louver holder	2	AX
1- 14	NBRG-A010JBFA	Louver bushing	2	AA
1- 15	PBOX-A186JBK0	Louver gear assembly	1	BA
1- 16	CHOS-A004JBK0	Drain hose assembly	1	AM
1- 17	PPACGA010JBE0	O ring	1	AB
1- 18	DCOV-A138JBFA	Drain pan cover	1	AM
1- 19	RMOT-A061JBE0	Louver motor	1	AS
1- 20	PGUMMA110JBE0	Drain cap	1	AD
1- 21	CWAK-B443JBK0	Front panel assembly	1	AU
1- 22	CPNL-A114JBK0	Open panel assembly	1	AM
1- 23	HBDG-A059JBEA	Badge	1	AF
1- 24	DDEC-A033JBK0	Display cover assembly	1	AH
1- 25	PFILMA088JBEA	Air filter	1	AK
1- 25	PFILMA090JBEA	Air filter	1	AK
1- 26	LHLD-A302JBFA	Tube holder	1	AD
1- 27	LHLD-A303JBFA	Tube holder	1	AD
1- 28	TSPC-B795JBR0	Name badge [AH-X075E]	1	AH
1- 28	TSPC-B792JBR0	Name badge [AH-X095E]	1	AH
1- 29	TLABKB679JBR0	Number card [AH-X075E]	1	AB
1- 29	TLABKB677JBR0	Number card [AH-X095E]	1	AB
1- 30	PGUMMA082JBE0	Motor cushion	1	AD
1- 31	GWAK-A203JBFA	Front panel	1	AQ
1- 32	PCOV-A306JBF0	Protect cover	1	AE
		CONTROL BOX		
2- 1	LHLD-A281JBFA	Cord holder	1	AC
2- 2	PBOX-A182JBF0	Control box	1	AN
2- 3	LHLD-A313JBF0	Cord holder	1	AC
2- 4	LHLD-A282JBF0	Thermistor holder	1	AG
2- 5	PCOV-A300JBF0	Thermistor holder cover	1	AB
2- 6	HPNLCA578JBFA	Control box cover	1	AF
2- 7	HPNLCA595JBEA	Control panel	1	AC
2- 8	PCOV-A278JBF0	LED holder	1	AH
2- 9	TLABCA726JBR0	Wiring diagram	1	AC
2- 10	DSGY-A642JBK0	Electric control board [AH-X075E]	1	BM
2- 10	DSGY-A641JBK0	Electric control board [AH-X095E]	1	BE
2- 11	QACC-A176JBE0	Source code	1	AY
2- 12	QTAN-A152JBE0	Terminal board	1	AN
2- 13	QTAN-A186JBE0	4 poles terminal board	1	AP
2- 14	QW-VZC486JBE0	Terminal wire L	1	AF
2- 15	QW-VZC487JBE0	Terminal wire N	1	AE
2- 16	QW-VZC488JBE0	Main relay wire	1	AE
2- 17	QW-VZC489JBE0	Earth lead	1	AF
2- 18	QW-VZC500JBE0	Louver motor wire	1	AF
2- 19	QW-VZC406JBE0	Fan motor wire	1	AK
		CYCLE PARTS		
3- 1	CPIPCA353JBK0	Pipe assembly	1	AX
3- 2	PSEN-A004JBK0	Flare nut assembly	1	AE
3- 3	PSEN-A005JBK0	Flare nut assembly	1	AG
3- 4	PVLV-A082JBE0	Flare union	1	AF
3- 5	PVLV-A083JBE0	Flare union	1	AG
3- 6	DEVA-A020JBK0	Evaporator assembly	1	BP

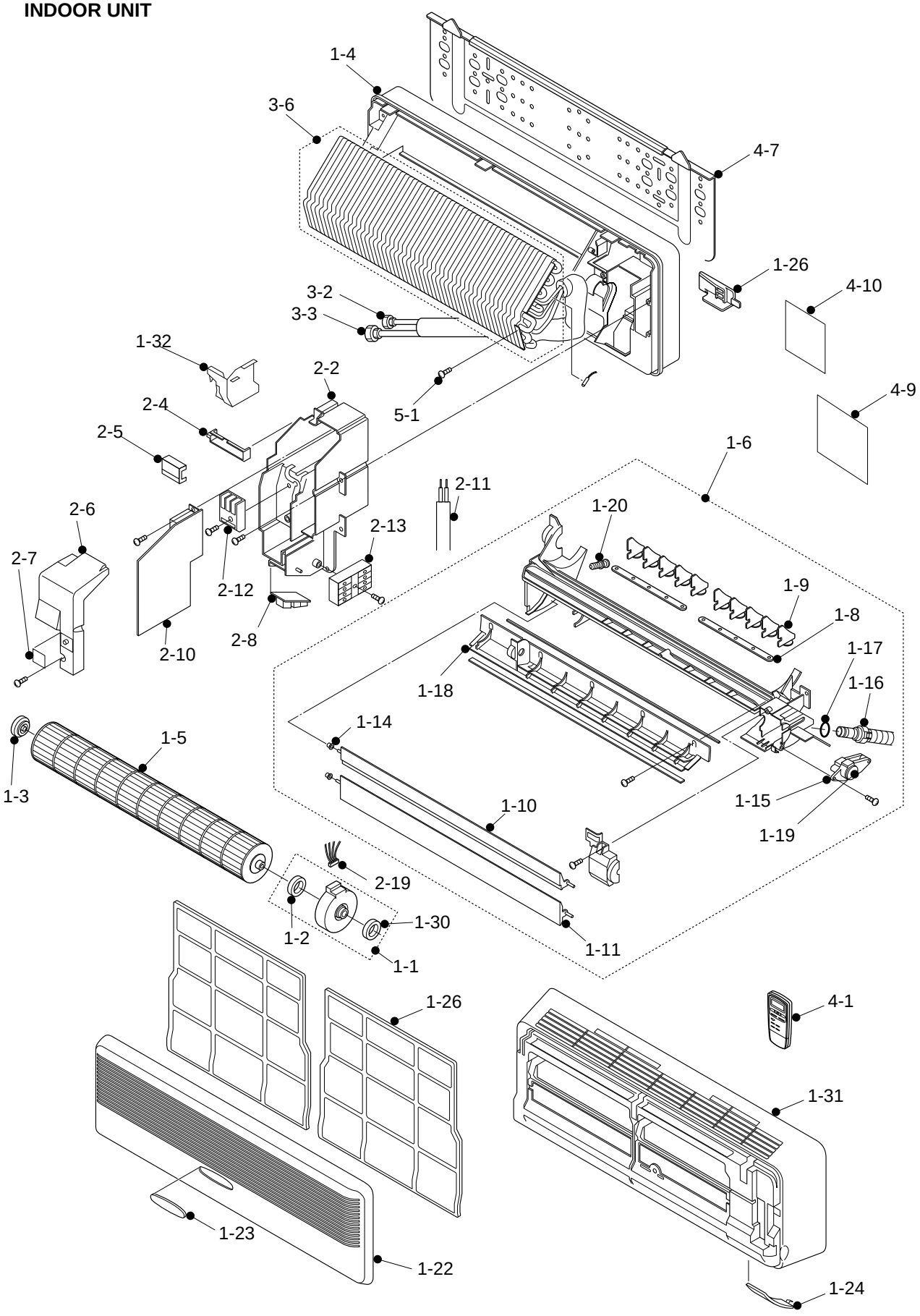
REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
		ACCESSORY PARTS		
4- 1	CRMC-A358JBE0	Remote controller	1	BC
4- 2	FCOV-A013JBFA	Screw cover	2	AB
4- 3	LX-NZ0247JBE0	Special nut	1	AB
4- 4	XTNUZ40P20000	Tapping screw	1	AB
4- 5	GLEGGA008JBE0	Anti-vibration rubber	4	AE
4- 6	LPFT-A029JBF0	Drain hose adpter	1	AD
4- 7	PPLTNA030JBP0	Mounting plate	1	AL
4- 8	XTTSD45P30000	Long screw	6	AA
4- 9	TINSEA087JBR0	Operation manual	1	AM
4- 10	TINS-A327JBR0	Installation manual	1	AD
		SCREWS		
5- 1	LX-BZA075JBE0	Special screw	1	AA

HOW TO ORDER REPLACEMENT PARTS

To have your order filled prompty and correctly, please furnish the following information.

1. MODEL NUMBER 2. REF. NO.
3. PART NO. 4. DESCRIPTION

INDOOR UNIT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1-24

REPLACEMENT PARTS LIST (AU-X075E/AU-X095E)

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
CONTROL BOX PARTS AND ELECTRIC PARTS				
1- 1	CMOTLA485JBE0	Fan motor	1	BF
1- 4	DSGY-A643JBK0	Electric control board [AU-X075E]	1	BP
1- 4	DSGY-A639JBK0	Electric control board [AU-X095E]	1	BH
1- 5	QTAN-A186JBE0	Terminal board (4P)	1	AP
1- 7	QW-VZC471JBE0	Compressor wire	1	AN
1- 8	QW-VZC472JBE0	Wire assembly	1	AS
1- 9	QW-VZC473JBE0	Active filter wire	1	AF
1- 10	RC-AZA046JBE0	Capacitor	1	BE
1- 11	RH-DZA117JBE0	Diode bridge	1	AM
1- 12	RH-HZ0011JBE0	Ptc thermistor	1	AN
1- 13	RH-TZA145JBE0	Power transistor module (IPM)	1	BU
1- 14	RH-TZA106JBE0	Power factor module	1	BL
1- 15	QW-VZC474JBE0	Choke coil wire	1	AH
1- 16	RTHM-A022JBE0	Compressor thermistor	1	AN
1- 17	RTHM-A236JBE0	Thermistor assembly	1	AP
1- 18	RTRN-A199JBE0	Choke coil	1	BE
1- 19	PBOX-A180JBF0	Control box	1	AR
1- 20	LBND-A014JBE0	Wire fixing band	4	AA
1- 21	MSPR-A102JBE0	Spring	1	AE
1- 22	PCOV-A304JBF0	Sheet	1	AD
1- 23	PRDAFA072JBE0	Heat sink for IPM	1	AQ
1- 24	PRDAFA073JBE0	Heat sink for DB	1	AH
1- 25	PSHEGA011JBE0	Rubber for DB	1	AB
1- 27	RFIL-A060JBE0	Ferrite core	3	AF
1- 28	RFIL-A064JBE0	Ferrite core	1	AF
CABINET AND UNIT PARTS				
2- 1	LANGKA050JBP0	Fan motor angle	1	AM
2- 2	PFPFPB087JBE0	Motor angle cushion	1	AC
2- 3	GCAB-A119JBFA	Rear cabinet	1	AW
2- 4	LHLD-0261JBM0	Cord holder	1	AB
2- 6	GCAB-A118JBFA	Front cabinet	1	BG
2- 7	GGAD-A028JBTA	Fan guard		AY
2- 8	PCOV-A279JBP0	Control box cover	1	AL
2- 9	PGID-A042JBFA	Orifice	1	AP
2- 10	PSEL-A841JBE0	Gasket	1	AE
2- 11	PSEL-A877JBE0	Gasket	1	AC
2- 12	TLABBA111JBRA	Sharp badge	1	AH
2- 13	CCHS-A501JBTA	Base pan assembly	1	AG
2- 14	PFTA-A034JBFA	Control box cover	1	AM
2- 15	PSHE-A134JBE0	Protect sheet	1	AD
2- 16	MSPR-A027JBE0	Spring	1	AB
2- 17	MSPR-A046JBE0	Spring	1	AC
2- 18	NFANPA041JBE0	Propeller fan	1	AU
2- 19	FSKR-A005JBK0	Bulkhead	1	AQ
2- 20	TLABKB683JBR0	Number card [AU-X075E]	1	AB
2- 20	TLABKB682JBR0	Number card [AU-X095E]	1	AB
2- 21	TSPC-B794JBR0	Name badge [AU-X075E]	1	AH
2- 21	TSPC-B793JBR0	Name badge [AU-X095E]	1	AH
2- 22	PSEL-A879JBE0	Gasket	1	AD
2- 23	PFPFPB149JBE0	Insulator	1	AC
2- 24	TLABCA752JBR0	Wiring diagram	1	AD
2- 26	PSEL-A880JBE0	Insulator	1	AC
CYCLE PARTS				
3- 2	CVLV-A316JBK0	Capillary tube assembly [AU-X075E]	1	AP
3- 2	CVLV-A329JBK0	Capillary tube assembly [AU-X095E]	1	AQ
3- 3	DCON-A007JBP0	Condensor assembly	1	BN
3- 4	DVLV-A252JBK0	3 way valve unit	1	AX
3- 5	LX-NZA034JBE0	Service nut	1	AD
3- 6	LX-NZA081JBE0	Bonnet	2	AG
3- 7	DVLV-A253JBK0	2 way valve unit	1	AW
3- 9	FCMPRA035JBK0	Compressor assembly (2-17, 3-20 and 3-21 included)	1	CF
3- 10	GLEG-A057JBE0	Compressor cushion	3	AD
3- 11	PSPF-A451JBE0	Compressor cover	1	AX
3- 12	PSPF-A462JBE0	Sound proof cover	1	AG
3- 13	PSEN-A004JBK0	Flare nut assembly	1	AE
3- 14	PSEN-A005JBK0	Flare nut assembly	1	AG
3- 15	PGUMSA069JBE0	Damper rubber	1	AE

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
3- 16	PGUMSA222JBE0	Damper rubber	1	AL
3- 17	PSEL-A878JBE0	Cushion	1	AD
3- 18	CPIPCA373JBK0	Suction pipe assembly	1	AZ
3- 19	CPIPCA374JBK0	Discharge pipe assembly	1	AW
3- 20	PGUMSA033JBE0	Damper rubber B	1	AK
3- 21	PGUMS0170JBE0	Damper rubber	1	AF
3- 22	PGUM-0034JBE0	Damper rubber U3	1	AG

SCREWS AND NUTS

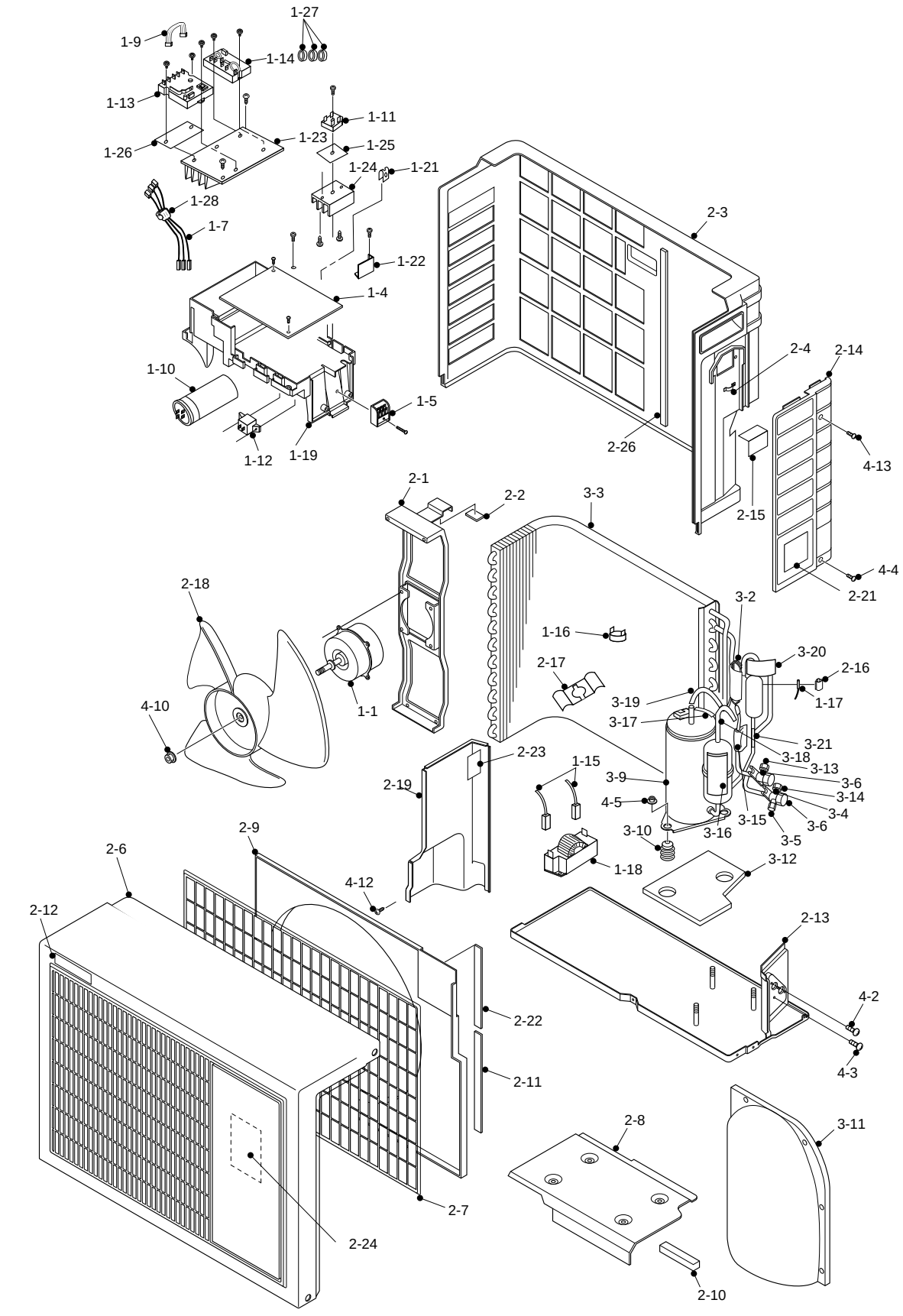
4- 1	LX-BZA091JBE0	Special screw [AU-X075E]	9	AA
4- 1	LX-BZA091JBE0	Special screw [AU-X095E]	9	AA
4- 2	LX-BZA072JBE0	Special screw	4	AB
4- 3	LX-BZA107JBE0	Special screw	1	AC
4- 4	LX-BZA166JBE0	Special screw	6	AB
4- 5	LX-NZA026JBE0	Special screw	3	AC
4- 6	LX-BZA075JBE0	Special screw	2	AA
4- 7	LX-BZA091JBE0	Special screw	7	AA
4- 8	LX-BZA131JBE0	Special screw	11	AB
4- 9	LX-BZA166JBE0	Special screw [AU-X075E]	7	AB
4- 9	LX-BZA166JBE0	Special screw [AU-X095E]	7	AB
4- 10	LX-NZA110JBE0	Special nut	1	AB
4- 11	XTSSF40P12000	Special nut	7	AB
4- 12	LX-BZA175JBE0	Special screw	1	AC
4- 13	LX-BZA176JBE0	Special screw	1	AC

HOW TO ORDER REPLACEMENT PARTS

To have your order filled prompty and correctly, please furnish the following information.

1. MODEL NUMBER 2. REF. NO.
3. PART NO. 4. DESCRIPTION

OUTDOOR UNIT



REPLACEMENT PARTS LIST (AY-X075E/AY-X095E)

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
		CABINET AND UNIT PARTS		
1- 1	CMOT-A263JBE0	Fan motor sub assembly	1	BH
1- 2	PGUMMA071JBE0	Motor cushion	1	AN
1- 3	CHLD-A050JBK0	Bearing assembly	1	AG
1- 4	DCHS-A233JBK0	Cabinet assembly	1	AX
1- 5	NFANCA058JBE0	Cross flow fan	1	AS
1- 6	CSRA-A375JBK0	Drain pan assembly	1	BE
1- 7	DSRA-A186JBK0	Drain pan sub assembly	1	AV
1- 8	MJNTPA058JBFA	Louver link	2	AC
1- 9	MLOV-A184JBFA	Horizontal adjustment louver	10	AB
1- 10	MLOV-A172JBFA	Vertical adjustment louver	1	AH
1- 11	MLOV-A173JBFA	Vertical adjustment louver	1	AK
1- 12	GGAD-A029JBTA	Fan guard	1	AX
1- 13	LHLD-A197JBFA	Louver holder	2	AX
1- 14	NBRG-A010JBFA	Louver bushing	2	AA
1- 15	PBOX-A186JBK0	Louver gear assembly	1	BA
1- 16	CHOS-A004JBK0	Drain hose assembly	1	AM
1- 17	PPACGA010JBE0	O ring	1	AB
1- 18	DCOV-A138JBFA	Drain pan cover	1	AM
1- 19	RMOT-A061JBE0	Louver motor	1	AS
1- 20	PGUMMA110JBE0	Drain cap	1	AD
1- 21	CWAK-B443JBK0	Front panel assembly	1	AU
1- 22	CPNL-A114JBK0	Open panel assembly	1	AM
1- 23	HBDG-A059JBEA	Badge	1	AF
1- 24	DDEC-A033JBK0	Display cover assembly	1	AH
1- 25	PFILMA088JBEA	Air filter	1	AK
1- 25	PFILMA090JBEA	Air filter	1	AK
1- 26	LHLD-A302JBFA	Tube holder	1	AD
1- 27	LHLD-A303JBFA	Tube holder	1	AD
1- 28	TSPC-B790JBR0	Name badge [AY-X075E]	1	AH
1- 28	TSPC-B733JBR0	Name badge [AY-X095E]	1	AH
1- 29	TLABKB680JBK0	Number card [AY-X075E]	1	AC
1- 29	TLABKB681JBK0	Number card [AY-X095E]	1	AC
1- 30	PGUMMA082JBE0	Motor cushion	1	AD
		CONTROL BOX		
2- 1	LHLD-A281JBFA	Cord holder	1	AC
2- 2	PBOX-A182JBF0	Control box	1	AN
2- 3	LHLD-A313JBF0	Cord holder	1	AC
2- 4	LHLD-A282JBF0	Thermistor holder	1	AG
2- 5	PCOV-A300JBF0	Thermistor holder cover	1	AB
2- 6	HPNLCA578JBFA	Control box cover	1	AF
2- 7	HPNLCA595JBEA	Control panel	1	AC
2- 8	PCOV-A278JBF0	LED holder	1	AH
2- 9	TLABCA726JBR0	Wiring diagram	1	AC
2- 10	DSGY-A640JBK0	Electric control board [AY-X075E]	1	BM
2- 10	DSGY-A636JBK0	Electric control board [AY-X095E]	1	BM
2- 11	QACC-A176JBE0	Source code	1	AY
2- 12	QTAN-A152JBE0	Terminal board	1	AN
2- 13	QTAN-A186JBE0	4 poles terminal board	1	AP
2- 14	QW-VZC486JBE0	Terminal wire L	1	AF
2- 15	QW-VZC487JBE0	Terminal wire N	1	AE
2- 16	QW-VZC488JBE0	Main relay wire	1	AE
2- 17	QW-VZC489JBE0	Earth lead	1	AF
2- 18	QW-VZC500JBE0	Louver motor wire	1	AF
2- 19	QW-VZC406JBE0	Fan motor wire	1	AK
		CYCLE PARTS		
3- 1	CPIPCA353JBK0	Pipe assembly	1	AX
3- 2	PSEN-A004JBK0	Flare nut assembly	1	AE
3- 3	PSEN-A005JBK0	Flare nut assembly	1	AG
3- 4	PVLV-A082JBE0	Flare union	1	AF
3- 5	PVLV-A083JBE0	Flare union	1	AG
3- 6	DEVA-A020JBK0	Evaporator assembly	1	BP

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
		ACCESSORY PARTS		
4- 1	CRMC-A357JBE0	Remote controller	1	BC
4- 2	FCOV-A013JBFA	Screw cover	2	AB
4- 3	LX-NZ0247JBE0	Special nut	1	AB
4- 4	XTNUZ40P20000	Tapping screw	1	AB
4- 5	GLEGGA008JBE0	Anti-vibration rubber	4	AE
4- 6	LPFT-A029JBF0	Drain hose adpter	1	AD
4- 7	PPLTNA030JBP0	Mounting plate	1	AL
4- 8	XTTSD45P30000	Long screw	6	AA
4- 9	TINSEA082JBR0	Operation manual	1	AM
4- 10	TINS-A327JBR0	Installation manual	1	AD
		SCREWS		
5- 1	LX-BZA075JBE0	Special screw	1	AA

HOW TO ORDER REPLACEMENT PARTS

To have your order filled prompty and correctly, please furnish the following information.

1. MODEL NUMBER 2. REF. NO.
3. PART NO. 4. DESCRIPTION

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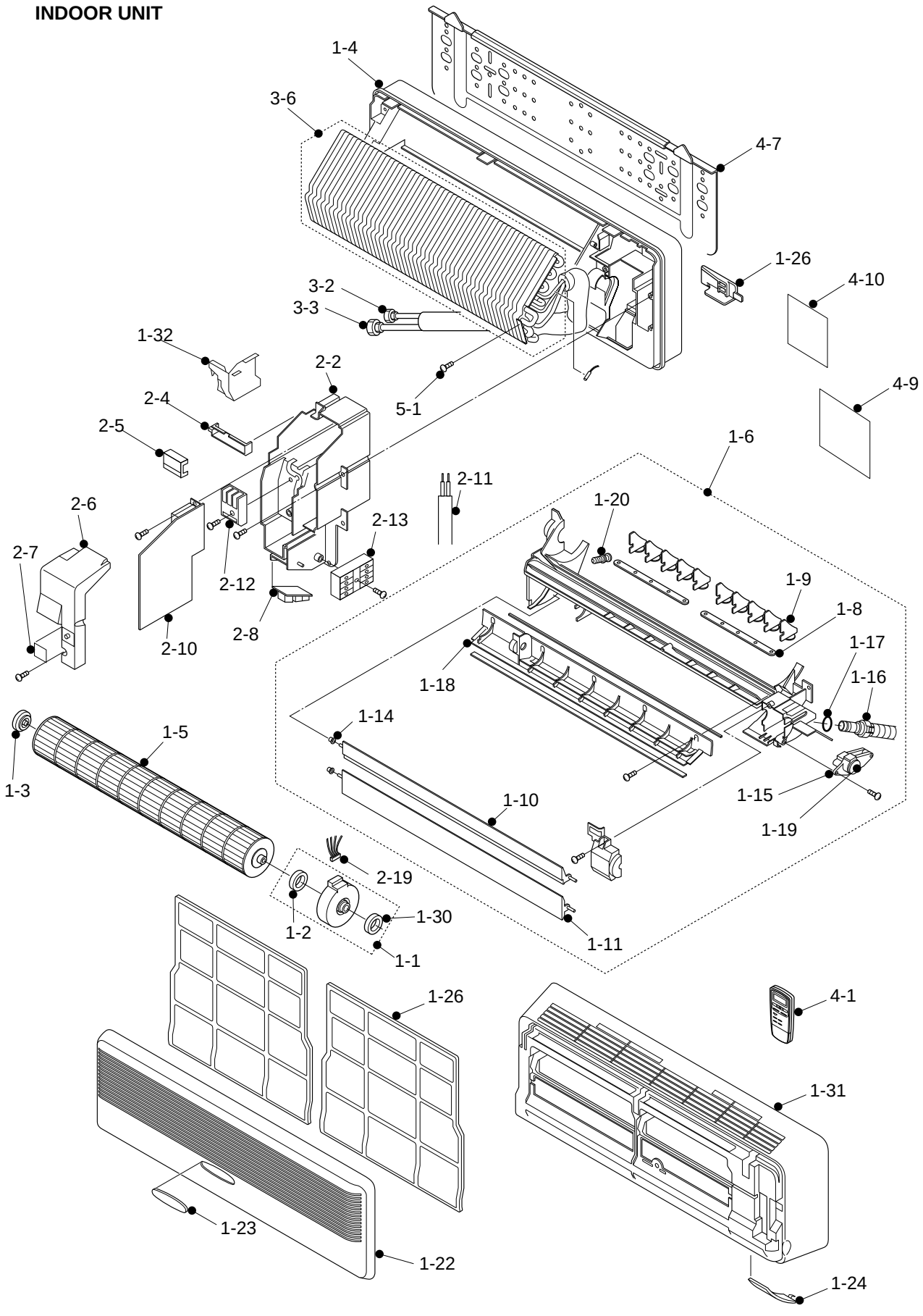
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REPLACEMENT PARTS LIST (AE-X075E/AE-X095E)

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
		CONTROL BOX PARTS		
1- 1	CMOTLA485JBE0	Fan motor	1	BF
1- 2	QW-VZC475JBE0	4 way valve coil wire	1	AF
1- 3	RCIL-A050JBE0	4 way valve coil	1	AX
1- 4	DSGY-A638JBK0	Electric control board [AE-X075E]	1	BP
1- 4	DSGY-A632JBK0	Electric control board [AE-X095E]	1	BK
1- 5	QTAN-A186JBE0	Terminal board (4P)	1	AP
1- 7	QW-VZC471JBE0	Compressor wire	1	AN
1- 8	QW-VZC472JBE0	Wire assembly	1	AS
1- 9	QW-VZC473JBE0	Power factor module wire	1	AF
1- 10	RC-AZA046JBE0	Capacitor	1	BE
1- 11	RH-DZA117JBE0	Diode bridge	1	AM
1- 12	RH-HZ0011JBE0	Ptc thermistor	1	AN
1- 13	RH-TZA145JBE0	Power transistor module(IPM)	1	BU
1- 14	RH-TZA106JBE0	Power factor module(Active filter)	1	BL
1- 15	QW-VZC474JBE0	Choke coil wire	1	AH
1- 16	RTHM-A022JBE0	Compressor thermistor	1	AN
1- 17	RTHM-A230JBE0	Thermistor assembly	1	AQ
1- 18	RTRN-A199JBE0	Choke coil	1	BE
1- 19	PBOX-A180JBF0	Control box	1	AR
1- 20	LBND-A014JBE0	Wire fixing band	4	AA
1- 21	MSPR-A102JBE0	Spring	1	AE
1- 22	PCOV-A304JBF0	Sheet	1	AD
1- 23	PRDAFA072JBE0	Heat sink for Power transistor module	1	AQ
1- 24	PRDAFA073JBE0	Heat sink for DB	1	AH
1- 25	PSHEGA011JBE0	Rubber for DB	1	AB
1- 27	RFIL-A060JBE0	Ferrite core	3	AF
1- 28	RFIL-A064JBE0	Ferrite core	1	AF
		CABINET AND UNIT PARTS		
2- 1	LANGKA050JBP0	Fan motor angle	1	AM
2- 2	PFPFPB087JBE0	Motor angle cushion	1	AC
2- 3	GCAB-A119JBFA	Rear cabinet	1	AW
2- 4	LHLD-0261JBM0	Cord holder	1	AB
2- 6	GCAB-A118JBFA	Front cabinet	1	BG
2- 7	GGAD-A028JBTA	Fan guard		AY
2- 8	PCOV-A279JBP0	Control box cover	1	AL
2- 9	PGID-A042JBFA	Orifice	1	AP
2- 10	PSEL-A841JBE0	Gasket	1	AE
2- 11	PSEL-A877JBE0	Gasket	1	AC
2- 12	TLABBA111JBRA	Sharp badge	1	AH
2- 13	CCHS-A501JBTA	Base pan assembly	1	AG
2- 14	PFTA-A034JBFA	Control box cover	1	AM
2- 15	PSHE-A134JBE0	Protect sheet	1	AD
2- 16	MSPR-A027JBE0	Spring	1	AB
2- 17	MSPR-A046JBE0	Spring	1	AC
2- 18	NFANPA041JBE0	Propeller fan	1	AU
2- 19	FSKR-A005JBK0	Bulkhead	1	AQ
2- 20	TLABKB685JBK0	Number card [AE-X075E]	1	AB
2- 20	TLABKB684JBK0	Number card [AE-X095E]	1	AB
2- 21	TSPC-B791JBR0	Name badge [AE-X075E]	1	AH
2- 21	TSPC-B736JBR0	Name badge [AE-X095E]	1	AH
2- 22	PSEL-A879JBE0	Gasket	1	AD
2- 23	PFPFPB149JBE0	Insulator	1	AC
2- 24	TLABCA751JBR0	Wiring diagram	1	AD
2- 26	PSEL-A880JBE0	Insulator	1	AC
		CYCLE PARTS		
3- 1	DVLV-A264JBK0	Reverse valve sub assembly(Assembly of 3-23 to 3-32)	1	BE
3- 2	CVLV-A316JBK0	Capillary tube assembly [AE-X075E]	1	AP
3- 2	CVLV-A329JBK0	Capillary tube assembly [AE-X095E]	1	AQ
3- 3	DCON-A007JBP0	Condensor assembly	1	CD
3- 4	DVLV-A252JBK0	3 way valve unit	1	AX
3- 5	LX-NZA034JBE0	Service nut	1	AD
3- 6	LX-NZA081JBE0	Bonnet	2	AG
3- 7	DVLV-A253JBK0	2 way valve unit	1	AW
3- 9	FCMPRA035JBK0	Compressor assembly (2-17, 3-20 and 3-21 included)	1	CF
3- 10	GLEG-A057JBE0	Compressor cushion	3	AD
3- 11	PSPF-A451JBE0	Compressor cover	1	AX
3- 12	PSPF-A462JBE0	Sound proof cover	1	AG

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
3- 13	PSEN-A004JBK0	Flare nut assembly	1	AE
3- 14	PSEN-A005JBK0	Flare nut assembly	1	AG
3- 15	PGUMSA069JBE0	Damper rubber	1	AE
3- 16	PGUMSA222JBE0	Damper rubber	1	AL
3- 17	PSEL-A878JBE0	Cushion	1	AD
3- 20	LBSHCA005JBE0	Terminal bushing	1	AA
3- 21	MSPRPA011JBE0	Spring	1	AF
3- 22	PGUMS0170JBE0	Damper rubber	1	AF
3- 23	PSEL-A876JBE0	Insulator	1	AC

SCREWS AND NUTS

4- 1	LX-BZA091JBE0	Special screw [AE-X075E]	9	AA
4- 1	LX-BZA091JBE0	Special screw [AE-X095E]	9	AA
4- 2	LX-BZA072JBE0	Special screw	4	AB
4- 3	LX-BZA107JBE0	Special screw	1	AC
4- 4	LX-BZA166JBE0	Special screw	5	AB
4- 5	LX-NZA026JBE0	Special screw	3	AC
4- 6	LX-BZA075JBE0	Special screw	2	AA
4- 7	LX-BZA091JBE0	Special screw	7	AA
4- 8	LX-BZA131JBE0	Special screw	11	AB
4- 9	LX-BZA166JBE0	Special screw [AE-X075E]	7	AB
4- 9	LX-BZA166JBE0	Special screw [AE-X095E]	7	AB
4- 10	LX-NZA110JBE0	Special nut	1	AB
4- 11	XTSSF40P12000	Special nut	7	AB
4- 12	LX-BZA175JBE0	Special screw	2	AC
4- 13	LX-BZA176JBE0	Special screw	1	AC

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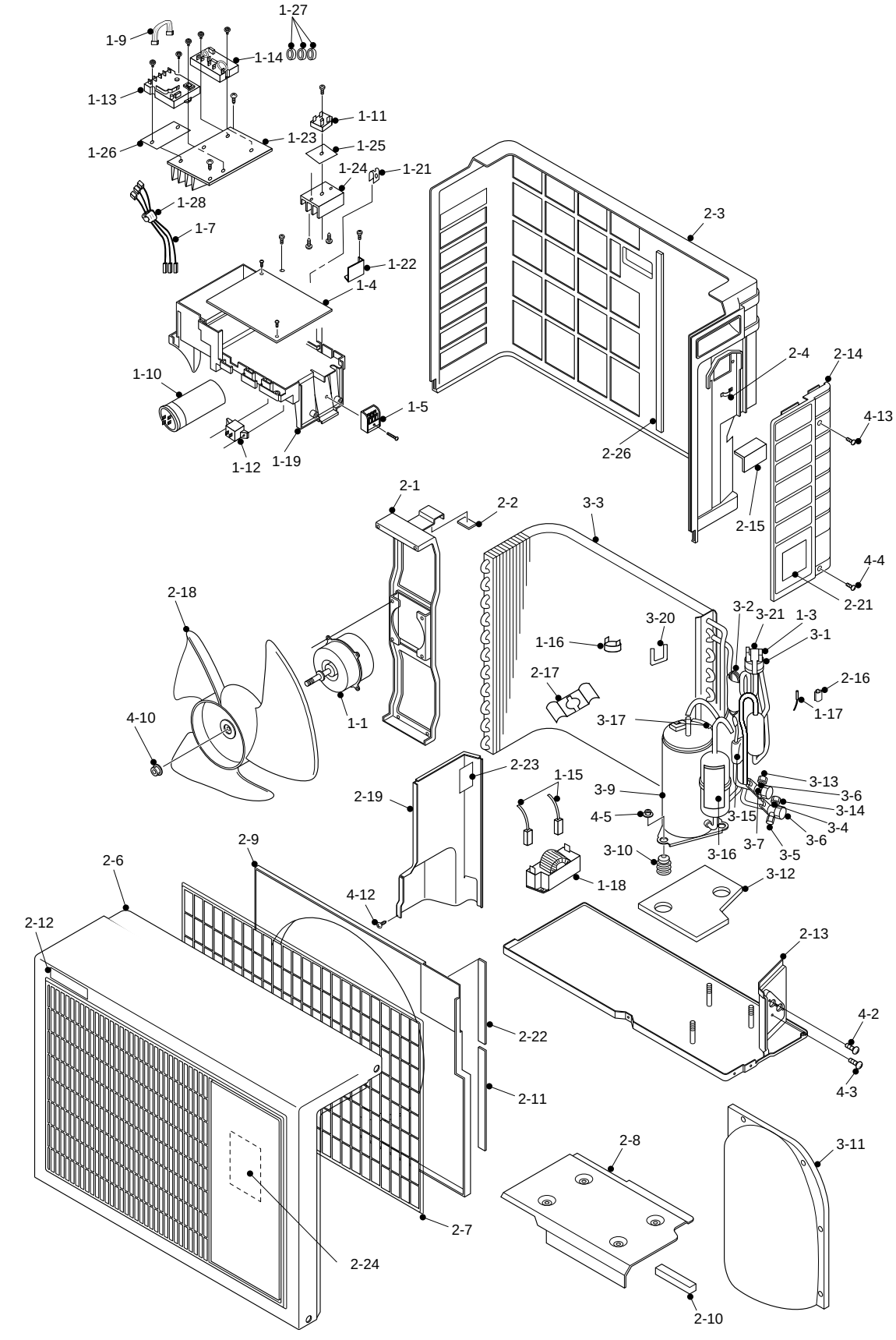

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